

Richland Operations Office

FY 2001

**Performance Evaluation of
Battelle Memorial Institution
for the
Management and Operations of the
Pacific Northwest National Laboratory**

December 2001



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I. OVERALL SUMMARY/RATING

The basis for the evaluation of Battelle Memorial Institute's management and operations of the Pacific Northwest National Laboratory (henceforth referred to as "the Laboratory") during FY 2001 centered around the measures found within the Scientific and Technological Excellence, Management and Operations Excellence, and Leadership Excellence Critical Outcomes. Although the Battelle's self-evaluation of the Critical Outcomes and the associated objectives and indicators were the primary means for determining the Contractor's performance other means such as operational awareness (daily oversight) activities, DOE RL reviews, and other outside agency reviews (OIG, GAO, DCAA, etc.) conducted throughout the year were utilized as appropriate to ensure Battelle continued to meet minimum contract requirements throughout the performance evaluation period. In addition, a two-week field review was conducted from October 31 through November 15, 2001, during which time review teams followed up on (verified and/or validated) activities and issues associated with the outcomes and other areas of Battelle's Directorate/Division self-assessments.

The performance evaluation rating for FY 2001 was calculated utilizing the following methodology. The adjectival rating earned for each performance indicator was assigned the appropriate value points. The Objective rating was then computed by multiplying the value points by the weight of each performance indicator within an Objective. These were then added together to develop an overall score for each Objective. The score for each Objective within an Outcome was then computed in the same manner to arrive at a score for each Outcome. The scores for each of the Outcomes were then multiplied by the weight assigned and these were summed to provide an overall score for the Contractor. The total Contractor score was compared to an adjectival rating scale, see Table B below, to determine the overall Contractor adjectival rating for FY 2001. An adjectival rating may be identified at any level of the performance evaluation process (Outcome, Objective, or Indicator); however, the raw score (rounded to the nearest hundredth) from each calculation was carried through to the next stage of the calculation process. The raw score was rounded to the nearest tenth of a point for purposes of identifying the Contractor's overall adjectival rating as indicated in Table B. A standard rounding convention of x.44 and less rounds down to the nearest tenth (here, x.4), while x.45 and greater rounds up to the nearest tenth (here, x.5).

Battelle's performance generally met or exceeded DOE RL expectations throughout FY 2001, and although there were several areas for improvement identified these were more than offset by the identified strengths throughout the organization. Based on this evaluation the overall performance score was determined to be 4.87 value points, which corresponds to an adjective rating of **Outstanding**. The ratings for each of the Outcomes, as well as the overall rating are indicated within tables A and B below.

Critical Outcome	Value Points	Adjectival Rating	Weight	Weighted Score	Weighted Score
Science & Technological Excellence	4.86	Outstanding	60%	2.92	
Management and Operations Excellence	4.86	Outstanding	20%	0.98	
Leadership Excellence	4.84	Outstanding	20%	0.97	
Overall Contractor Total					4.87

Table A. FY 2001 Contractor Evaluation Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table B. Overall Contractor Adjectival Rating Scale



DOE RL's evaluation of each of the Critical Outcomes generally agreed with that of the Battelle's FY 2001 Annual Self-Evaluation Report for the Pacific Northwest National Laboratory. Section II of this report provides the evaluation with respect to each of the Critical Outcomes and their respective objectives and indicators.

Section III, "Other Notable Observations," of this report provides information regarding other DOE RL reviews/evaluations conducted as part of the FY 2001 performance review process. It should be noted that this section is provided for information purposes only and although some strengths and weaknesses were noted none were identified that impact the overall performance rating and/or fee. Even though these reviews do not effect the evaluation rating, DOE RL expects the Contractor to take special note of the information provided within these reviews and to take appropriate actions to insure continuous improvement in all aspects of the management and operations of the Laboratory.



II. CRITICAL OUTCOME

1.0 SCIENTIFIC AND TECHNOLOGICAL EXCELLENCE (60%)

The Scientific and Technological Excellence critical outcome measured the overall effectiveness/performance in delivering science and technology as viewed by the DOE HQ Office of Science (SC), and other cognizant HQ Offices, performance against three primary science and technology initiatives, and creating and maintaining strategic academic partnerships that strengthen scientific capabilities as well as demonstrating continued leadership in educating future scientists. The HQ evaluations indicated that Battelle continues to meet and/or exceed expectations regarding the overall scientific and technological programs conducted at the Laboratory. Table 1.1 shows the individual ratings and weighted value points awarded for each of the seven HQ program offices along with the overall value points earned. Each of the initiatives evaluated as part of this outcome (Biomolecular Networks, Computational Sciences, and Nanoscience and Technology) were rated as outstanding and the Contractor continued its excellence in creating and maintaining strategic academic partnerships and providing significant impacts on science, mathematics, and technology education. Overall the evaluation indicated that Battelle continues to meet and/or exceed expectations regarding the overall scientific and technological programs, affording Battelle an overall rating of **Outstanding** (4.86 value points) for this critical outcome. Table 1.3 and 1.4 shows how the outcome objective ratings were determined as well as the overall outcome rating.

1.1 through 1.4 DOE HQ Program Office Evaluations

Each of the Program Office evaluations included, as appropriate, the following four objectives: Quality of Science & Technology; Relevance to DOE Mission and National Needs; Success in Construction and Operating Research Facilities; and Effectiveness and Efficiency of Research Program Management. The following excerpts were taken from the HQ evaluations received. The overall rating from each of the HQ offices was weighted primarily based on business volume. The overall performance rating for this portion of the outcome was determined by multiplying the overall rating (value points) assigned by each of the seven program offices identified below by the weightings identified for each and then summing them (see Table 1.1). When no specific value points were assigned by the HQ reviewing office the appropriate value points were assigned in accordance with the adjectival rating definitions and value points identified in Figure I-1 of the FY 2001 Performance Evaluation and Fee Agreement (page J-E-2). For informational purposes the full evaluation reports provided by each HQ office are appended to this report.

Office of Science (SC)

The Office of Science (SC) has provided detailed narrative evaluations of performance for each program area to support an overall rating of **Outstanding** (see Appendix 2). The Office of Biological and Environmental Research (BER), the Office of Advanced Scientific Computing Research (ASCR), and Fusion individually rated Battelle's overall performance as Outstanding, while the Office of Basic Energy Sciences (BES) rated the Contractor's performance as Excellent. Performance highlights, by critical outcome objective and SC program area, are detailed in these evaluation reports.

The evaluations by the SC programs note that improvement was reflected in all of the areas mentioned last year as needing corrective action. However, BES expressed concerns for the second year in a row regarding the Materials Sciences program, and has "lingering concerns" related to the limited number of senior staff devoted to the program. Also, BER has commented for the second year in a row that the Laboratory has a leadership gap in Life Sciences research.

Assistant Secretary for Environmental Management (EM)

The Laboratory supports many EM related programs, the four main program areas are 1) the Environmental Science Program (EMSP), which the Laboratory leads the complex in the number of EMSP awards and has earned a 2001 R&D 100 award; 2) the Tanks Focus Area (TFA) which the Laboratory leads and has resulted in many successful technology deployments and critical DOE-EM



support, such as the Savannah River Site Salt Processing Project; 3) the Groundwater Vadose Zone (GW/VZ) Program in which the Laboratory continues to play a leadership role and whose work has been reviewed and commended by the National Academy of Sciences/National Research Council; and 4) the support to the DOE Office of River Protection (DOE-ORP) which has shown to provide key science and technology, strategic technical planning, as well as assessment and management support for the Waste Treatment Plant. Overall the EM rating for Battelle's performance is an **Outstanding**. Details regarding EM's evaluation are contained within Appendix 3.

Office of Defense Nuclear Nonproliferation (NN)

Battelle's overall performance in the area of Defense Nuclear Nonproliferation is rated at **Outstanding** (see Appendix 4). The Laboratory is able to develop and deliver significant scientific and technical solutions to complex nonproliferation problems, they have been highly creative in addressing a broad range of nonproliferation issues, and deliver on time and within agreed-to costs. The Laboratory conducts national security work with the highest quality, at a minimum price to the government and with consideration for the government and country's interests first and foremost. The Laboratory is considered part of the national security team and NN has utmost confidence and trust in the Laboratory Leadership and work performed. The Laboratory staff and management is often sought out and consulted for advice, ideas, and clarification on issues.

Office of Intelligence (IN)

Under Battelle Management, the Laboratory has performed **Outstanding** in the area of Intelligence (IN) throughout FY 2001—consistently exceeding expectations on the quality of its analysis and technology development, responding quickly and accurately to ad-hoc terrorist-related taskings, and providing quality people in support of the Office's unique responsibilities. Overall, the Laboratory and its Field Intelligence Element (FIE) is held in high regard as one of the primary leads for the Department's and the Intelligence Community's intelligence mission and as an outstanding contributor to the Office of Intelligence's responsibility for providing the United States Government with the best technical analysis available. Details regarding IN's evaluation are contained within Appendix 5.

Office of Counterintelligence (CN)

The overall performance of Battelle in the area of counterintelligence (CI) is rated at **Outstanding** (see Appendix 6). Feedback was received relative to five CI programs. Under the Investigations Program (IP) the Laboratory Senior Counterintelligence Officer and staff consistently performed at the highest levels of achievement that resulted in quality CI investigations. The Laboratory's support to the Analysis Program (AP) has been excellent in that their responses to field analytical taskings have been well organized, comprehensive in coverage, and have provided valuable CI analytical insights. The Laboratory has been a strong supporter of the Information and Special Technologies Program (ISTP) mission, has shown initiative at the strategic and tactical level, has responded with alacrity to all taskings, and has worked well to effectively bridge and merge the direct CI portion of the program with the more task oriented ISTP projects also underway at the Laboratory. In support of Training and Awareness, the Laboratory CI office did a superb job and made outstanding accomplishments in training initiatives through engagement in a very active Training Program. Under the Counterintelligence Evaluations Program (CIEP) headquarters has been impressed with the Laboratory CI's timeliness in the reporting of the Personnel Security File reviews and their thoroughness in the reporting of potential CI issues, which would otherwise have gone unnoticed, resulting in several additional inquiries being initiated by CIEP.

Assistant Secretary for Energy Efficiency and Renewable Energy (EE)

During FY 2001 the Laboratory conducted work in many programmatic areas for the Office of Energy Efficiency and Renewable Energy. The performance has been Outstanding with regard to their work in transportation technologies, in particular the OTT Fuel Cell Program, their work on lightweight automotive materials and superplastic forming. The Laboratory received an Energy 100 award in 2001 for the Wide Area Measurement System (WAMS) in the power technology area and their nationally



recognized experts in power transmission systems provided outstanding support. The Laboratory's work in the area of Industrial Technologies has also been Outstanding. Overall Battelle has continued to provide **Outstanding** support to EE programs. Details regarding EE's evaluation are contained within Appendix 7.

Assistant Secretary for Fossil Energy (FE)

The Laboratory has been given the lead role in supporting FE's revolutionary fuel cell development effort for solid-state fuel cells. FE's evaluation noted the Laboratory's creativity in this area. As an example of their creativity, the program manager presented a new concept, "The Fuel Cell Observatory," for conducting fundamental investigations of fuel cell operation. This proposal was well received, and funded at a pilot level of \$100,000 in FY 2001. The Contractor has managed the program with both initiative and with responsiveness to FE needs and was rated as **Outstanding** for FY 2001. Details regarding FE's evaluation are contained within Appendix 8.

1.5 Create leading-edge scientific capabilities to support evolving DOE Mission needs

Each of the three Initiatives measured as part of this objective made outstanding progress towards their overall goals during FY 2001. Each of the performance indicators identified below were composed of weighted sub-indicators agreed to by both parties in a memorandum of understanding approved February 6, 2001. The PNNL Site Office point-of-contact for the Fundamental Science Divisions (FSD) had an ongoing involvement in the initiatives, attending the progress reviews scheduled for the initiatives, had one-on-one meetings with initiative leads as necessary, and worked closely with the FSD Quality Manager to track the initiatives' progress. On the basis of daily oversight and involvement in monitoring the Initiatives' progress, the PNNL Site Office concurs with the overall Battelle self-assessment rating of **Outstanding**, however, a total of 4.88 value point were awarded versus the 5.0 proposed by the Contractor. The sub-indicators for each of the initiative and their corresponding ratings are identified below. The final report on each of the initiatives as identified within the memorandum of understanding is appended to this report as Appendix 9.

- 1.5.1 Progress against Biomolecular Networks Initiative expected outcomes was rated overall as Outstanding.

Sub-Indicator	Performance	Actual Score	Weighting	Weighted Score
1.5.1.1 Recruiting	Outstanding	5.0	30%	1.5
1.5.1.2 Program Development	Outstanding	5.0	20%	1.0
1.5.1.3 Partnerships and Collaborations	Outstanding	5.0	15%	0.75
1.5.1.4 Continued Technical and Scientific Progress	Outstanding	5.0	35%	1.75
Total Weighted Score				5.0

- 1.5.2 Progress against Computational Sciences Initiative expected outcomes was rated overall as Outstanding.

Sub-Indicator	Performance	Actual Score	Weighting	Weighted Score
1.5.2.1 Increase PNNL's computational resources	Outstanding	4.8	50%	2.4
1.5.2.2 Continued Technical and Scientific Progress	Outstanding	5.0	50%	2.5
Total Weighted Score				4.9



- 1.5.3 Progress against the Nanoscience and Technology expected outcomes was rated overall as Outstanding.

Sub-Indicator	Performance	Actual Score	Weighting	Weighted Score
1.5.1.1 Revised Project Plan	Outstanding	5.0	25%	1.25
1.5.1.4 Continued Technical and Scientific Progress	Outstanding	4.5	75%	3.38
Total Weighted Score				4.63

1.6 Create and maintain strategic academic partnerships that strengthen scientific capabilities and demonstrate leadership in educating future scientists

As evidenced by the performance of this objective Battelle continues to create and maintain strategic academic partnerships that strengthen the scientific capabilities of the Laboratory and have continued to have a significant impact on science, mathematics, and technology education. The DOE RL agrees with Battelle's self-evaluation rating of **Outstanding** (5.0 value points) earned by this objective in support of Critical outcome 1.0.

1.6.1 Impacts of the Laboratory's K–20 science education programs

Not only did Battelle earn an overall **Outstanding** rating for this indicator, as evidenced by the performance of the sub-indicators below, but also received high praise from SC for their “outstanding and unparalleled” management of the Energy Research Undergraduate Laboratory Fellowship (ERULF), Community College Institute (CCI), Pre-Service Teacher (PST) programs, Faculty and Student Team (FaST) pilot program, and EduLink service (see Appendix 10).

Sub-indicator 1.6.1.1: Impacts of Laboratory-sponsored programs for K-12 teachers of science, mathematics, and technology education in partner school districts

Laboratory-sponsored programs for K-12 teachers of science, mathematics, and technology education continues to be rated as one of the most best available by those who participate in it and earned an Outstanding rating.

Sub-indicator 1.6.1.2: Impacts of Laboratory-sponsored programs for secondary and post-secondary students in the areas of science, mathematics, engineering and technology

Laboratory-sponsored programs for secondary and post-secondary students in the areas of science, mathematics, engineering and technology continues to be rated as one of the most best available by those who participate in it and earned an Outstanding rating.

1.6.2 The impact of university partnerships on Laboratory research

Significant progress was realized in Academic Partnerships in fiscal year 2001 with the establishment of the Joint Institute for Nanoscience with the University of Washington, the establishment of the Joint Global Change Research Institute with the University of Maryland and the Battelle Memorial Institute, and the Cell Systems Institute with University of Washington and Battelle Memorial Institute. Additionally, a report was prepared to document in detail the mechanics of establishing a Joint Research Institute (*An Overview of PNNL's Institutional Relationships ...The Laboratory-University Agreements*), and was used for guidance in preparing elements of agreements with a number of institutions. Based on the above this indicator is rated as Outstanding.



HQ Program Office	Adjectival Rating	Value Points	Weight	Weighted Score	Overall Weighted Score
Office of Science	Outstanding	4.88	30%	1.47	
Assistant Secretary for Environmental Management	Outstanding	4.61	25%	1.16	
Office of Defense Nuclear Nonproliferation	Outstanding	5.0	15%	0.75	
Office of Intelligence	Outstanding	5.0	5%	0.25	
Office of Counterintelligence	Outstanding	4.6	5%	0.23	
Assistant Secretary for Energy Efficiency and Renewable Energy	Outstanding	4.74	10%	0.48	
Assistant Secretary for Fossil Energy	Outstanding	5.0	10%	0.50	
Overall Program Office Total					4.84

Table 1.1: Objectives 1.1 through 1.4 Scientific and Technological Excellence Evaluation Score Calculation for Program Offices.

ELEMENT	Adjectival Rating	Value Points	Weight	Weighted Score	Overall Weighted Score
1.6.1 Impacts of the Laboratory's K – 20 science education programs					
1.6.1.1 Impacts of Laboratory-sponsored programs for K-12 teachers of science, mathematics, and technology education in partner school districts	Outstanding	5.0	65%	3.25	
1.6.1.2 Impacts of Laboratory-sponsored programs for secondary and post-secondary students in the areas of science, mathematics, engineering and technology	Outstanding	5.0	35%	1.75	
Overall Indicator 1.6.2 Total					5.0

Table 1.2: Performance Indicator 1.6.2 Overall Score Calculation



ELEMENT	Adjectival Rating	Value Points	Indicator Weight	Total Points	Objective Weight	Total Points
Objectives 1.1 through 1.4: Program Office Total Scores (from Table 1.1)	Outstanding			4.84	85%	4.12
1.5 Create leading-edge scientific capabilities to support evolving DOE Mission needs.						
1.5.1 Progress against Biomolecular Networks Initiative expected outcomes	Outstanding	5.0	40%	2.0		
1.5.2 Progress against Computational Sciences Initiative expected outcomes	Outstanding	4.9	35%	1.72		
1.5.3 Progress against the Nanoscience and Technology expected outcomes	Outstanding	4.63	25%	1.16		
Obj. 1.5 Total				4.88	10%	0.49
1.6 Create and maintain strategic academic partnerships that strengthen scientific capabilities and demonstrate leadership in educating future scientists						
1.6.1 Impacts of the Laboratory's K – 20 science education programs	Outstanding	5.0	65%	3.25		
1.6.2 The impact of university partnerships on Laboratory research	Outstanding	5.0	35%	1.75		
Obj. 1.6 Total				5.0	5%	0.25
Critical Outcome Total						4.86

Table 1.3: Science and Technological Excellence Critical Outcome Overall Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 1.4: Scientific and Technological Excellence Critical Outcome Final Rating



2.0 Management and Operations Excellence Critical Outcome (25%)

This Critical Outcome measured the Contractor's ability to manage and operate the Laboratory with distinction, becoming the DOE benchmark standard for Laboratory management, providing stewardship of DOE's assets and protecting the health and safety of workers, the public and the environment. DOE RL's review of this outcome has indicated that Battelle continues to conduct its work in a secure manner that ensures the safety of the worker, public and environment and does so utilizing systems which are increasingly integrated into the day-to-day operations of the Laboratory. Battelle's safety culture was also recognized when the Laboratory became the first Office of Science laboratory to be awarded the DOE's Voluntary Protection Program (VPP) Gold Star for Superior Performance. Our review also indicated that the Contractor has made excellent progress in establishing the processes required to better understand the current and future capability needs of the Laboratory and to then obtain or develop those identified capability needs. Battelle's business management functional areas for the most part continued to meet or exceed expectations during FY 2001; however, the Procurement area continues to be in need of management attention during FY 2002. The Procurement function was called out in last years report as needing special attention and DOE RL expects that Battelle will work closely with the RL Office of Procurement Services and the PNNL Site Office to ensure appropriate actions are developed and acted upon to alleviate this issue in FY 2002. Based on the overall results of the objectives and their corresponding indicators discussed below this Outcome is rated as **Outstanding**, with 4.86 value points awarded.

2.1 Provide management and operational excellence in achieving key contract provisions

The Contractor's performance throughout FY 2001 met or exceeded expectations in most areas reviewed indicating that Battelle continues to provide excellent management and operations ensuring key contract provisions are met. Based on DOE RL's evaluation of the indicators below this objective is provided an overall rating of **Outstanding**.

2.1.1 Effectiveness of Integrated Safety Management

Battelle met or exceeded all seven "Lagging Indicators" established for FY 2001, once again demonstrating the effectiveness of the Contractor's Integrated Safety Management (ISM) program and earning a rating of **Outstanding**. Of special note was the Laboratory's achievement of the DOE Voluntary Protection Program (VPP) Gold Star for Superior Performance. This achievement provides further, external, validation of the effectiveness of the Contractor's ISM program.

Performance Measures	Specified Level	FY 2001 Actual Levels
Total Recordable Case Rate	≤ 2.2 cases per 200,000 work hours	2.1 cases per 200,000 work hours
Lost Workday Case Incident Rate	≤ 1.1 cases per 200,000 work hours	0.9 cases per 200,000 work hours
Reportable Occurrences of Release to the Environment	≤ 2 events	0 events
Percent of Employees with Required Training	$\geq 95\%$	99.3%
Unplanned Dose	0 events	0
Spread of Radioactive Contamination	≤ 3 events	0
Loss of Control of Radioactive Material	≤ 1 loss	0



2.1.2 Performance against Business Management sub-indicators

The Contractor has shown exceptional progress in improving cost performance within the Laboratory and has continued to meet or exceed expectations within the business functional areas with one primary exception. As noted within sub-indicator 2.1.2.3 below the procurement functional area continues to be in need of management attention. DOE RL agrees with Battelle's self-rating of "marginal" identified within their FY 2001 Balanced Scorecard Report. Although the Contractor has taken steps to identify actions for improvement, these actions need to be incorporated within the Laboratory's FY 2002 Acquisition Management System Self-Assessment and Balanced Scorecard Plan and must be provided the appropriate management oversight to insure they are completed in an efficient and effective manner. Based on the weighted performance of the sub-indicators below this indicator is rated as **Outstanding** with 4.89 value points awarded.

Sub-indicator 2.1.2.1: Cost Management Trends: Overhead cost as a percent of Laboratory's 1830 fully burdened average charge out rate

Battelle exceeded expectations in lowering overhead costs as a percent of the Laboratory's 1830 fully burdened average charge out rate moving past the 54 percent mark set for an **Outstanding** rating to a mark of 53.1 percent. This exceptional performance is even more dramatic when compared to the FY 2000 result of 55.7 percent. DOE RL is very pleased with the progress achieved to date in this area and encourages Battelle to continue its efforts to meet the long-term goal of a burdened charge out rate comprised of less than 50 percent overheads.

Sub-indicator 2.1.2.2: Resource Management trends: Direct FTE's as a percent of the total Laboratory FTE's

Battelle also exceeded FY 2001 expectations in improving the balance of resources within the Laboratory aligned with direct funded activities compared to support functions funded by overhead dollars. In FY 2001 FTEs that charge direct accounted for 50 percent of the Laboratory's total FTEs, exceeding the level required for an **Outstanding** rating by one percent.

Sub-indicator 2.1.2.3: DOE's evaluation of the overall Contractor performance in the business management functional areas

The review of Battelle's business management functional areas for FY 2001 indicated that in most cases they are meeting or exceeding expectations and an overall rating of **Outstanding** (4.49 value points) has been awarded. Although some areas for improvement were identified in a number of the functional areas, the Procurement area, which is rated as Marginal, is in need of continuing management attention during FY 2002. The following table indicates the ratings awarded by functional area. Details regarding each can be found within the Business Management Oversight Review Report appended to this document (see Appendix 1).

BUSINESS MANAGEMENT (BMOP) ACTIVITIES	Adjectival Rating	Value Points
1. Administrative Services (including mail, printing, record access and library)	Outstanding	5.0
2. Congressional, Public, and Intergovernmental Affairs (including openness, whistle blower protection, and public participation)	Outstanding	5.0
3. Diversity	Good	3.0
4a. Finance	Excellent	4.0



BUSINESS MANAGEMENT (BMOP) ACTIVITIES	Adjectival Rating	Value Points
4b. Budget	Excellent	4.0
4c. Internal Audit	Excellent	4.0
5. Information Management	Outstanding	5.0
6. Laboratory and Institutional Business Planning	Outstanding	5.0
7. Life Cycle Asset Management	Outstanding	5.0
8. Human Resources Management	Excellent	4.0
9. Nonproliferation and National Security which includes the following: - Classification/Declassification (Outstanding) - Emergency Management (Outstanding)	Outstanding	5.0
10. Personal Property	Outstanding	4.7
11. Procurement	Marginal	2.0
12. Scientific and Technical Information Administration	Outstanding	5.0
13. Technology Partnerships Administration	Outstanding	5.0
14. Training	Outstanding	5.0
15. Worker and Community Transition	Outstanding	5.0
16. Work-for-Others Administration	Outstanding	5.0

2.1.3 Sustain and enhance effectiveness of integrated Safeguards and Security (SAS).

The Contractor's performance throughout FY 2001 met or exceeded expectations. This indicates that the Safeguards and Security management system are well integrated into the day-to-day operations of the Laboratory. Several systems/procedures were enhanced or automated during FY 2001 such as links with the Integrated Operations System, Foreign National Visits and Assignments, clearance justification automation, and foreign travel processing automation. Furthermore, Battelle met its financial performance goals, coming in with an estimated variance for authorized funding at 0 to 1 percent or ~\$15K. Based on the above and the performance of the four sub-indicators below this indicator is rated as **Outstanding** with 4.8 value points awarded.

Sub-indicator 2.1.3.1: SAS is integrated into the culture of the organization for effective deployment of the management system

DOE RL's assessment of this sub-indicator agrees with that provided within Battelle's Self-Evaluation Report which was rated as **Outstanding**. The Contractor completed all milestones and objectives for the Integrated SAS Management (ISSM) program and there was noticeable improvement in the outcome of the customer satisfaction survey. The positive results in the SAS survey shows that integration of ISSM into the Laboratory culture is becoming more complete. All Standards-Based Management System materials were reviewed in accordance with internal Contractor schedules and Records of Decisions (ROD) were completed on schedule. The Contractor's Independent Oversight organization completed an assessment of deployment of ISSM, which indicated that the systems deployment continues to improve with an average score of 4.1 (on a scale of 1 to 6).



Sub-indicator 2.1.3.2: Safeguards and Security (SAS) training and knowledge are commensurate with assigned responsibilities

Nearly all Contractor staff completed and was current with applicable SAS training requirements during FY 2001 with a composite fiscal year performance score of 93.9 percent. This performance equates to an **Excellent** rating for this sub-indicator.

Sub-indicator 2.1.3.3: External evaluations of performance in SAS programmatic areas reflect satisfactory protection of assets and compliance

Three external evaluations of SAS programs were conducted during FY 2001 of which all received a rating of satisfactory. This resulted in an overall rating of **Outstanding** for this sub-indicator. The three reviews included:

- The DOE HQ Chief Information Officer, Office of Architecture, Standards, and Planning evaluated the Contractor's communications security and emissions control programs resulting in a rating of "excellent."
- The DOE HQ Office of Nuclear and National Security Information conducted classification appraisal of DOE RL, which included the Laboratory. The evaluation resulted in a rating of "meets expectations," the highest rating available.
- The DOE HQ Office of Independent Oversight and Performance Assurance performed a comprehensive SAS review including all topical and sub-topical areas. This evaluation resulted in the highest available rating of "satisfactory."

Sub-indicator 2.1.3.4: Emerging threats are identified, reported, and mitigated as necessary

The number of reportable incidents of a security concern has continued to decline over the last three fiscal years with eight in FY 1999, four in FY 2000 and only one in FY 2001. This performance exceeds the goal set for FY 2001 of less than six (the average of the previous two years). Eight corrective actions were identified in connection with the single reportable incident and all eight were implemented within the agreed to schedule. This performance resulted in a rating of **Outstanding** for this sub-indicator.

2.2 Optimize capability alignment with current and future mission needs

This objective was developed to track the Contractor's progress in establishing the processes required to better understand current and future capability needs and to then obtain or develop identified capability needs. As identified within each of the indicators below Battelle has progressed well in characterization of the capability baselines, and was able to make excellent progress toward the analysis of identified needs. A number of actions driven by these metrics were taken to improve existing processes used to understand current and future mission needs and to acquire needed staff, facilities, and equipment. Overall this objective is rated as **Outstanding**.

2.2.1 Develop and establish a process for characterizing the Laboratory's technical capabilities

The Contractor's performance met the **Outstanding** level for this indicator, achieving a solid understanding of technical capability gaps, and establishing a management approach sufficiently to enable specific improvement actions to be taken through the Laboratory's planning processes and prioritization decisions to address identified gaps. Battelle also made several improvements in this arena during FY 2001 to include the establishment of a technical network management approach, revising some planning templates to address information gaps, and creating new planning tools to better communicate information gained regarding Laboratory capabilities.



2.2.2 Effective execution of the Facilities Strategic Plan to provide the facility space and infrastructure needed to achieve the vision of the Laboratory for the 21st Century

Battelle successfully completed all seven performance milestones identified for this indicator on or ahead of schedule achieving a rating of **Outstanding**. The seven milestones included:

- The acquisition and occupancy of ~20,000 square feet of office space in north Richland to ease overcrowding in other facilities.
- The completion of construction for the User Housing Facility.
- Completion of Definitive Design and Start of Construction of FY 2001 GPP funded renovations to four laboratories in the 331 building to support Biological Sciences research.
- The preparation, submission, and presentation of Justification of Mission need (CD-0) for FY 2003 DOE Office of Science Line Item – Laboratory Systems and Rehabilitation Upgrade.
- Preparation of a project plan that integrates the switchgear and HVAC Controller replacement projects in the RPL Building.
- Initiate project to replace the switchgear and HVAC Controller in the RPL Building.
- Development of an implementation plan that defines Battelle's strategy to address the interim facility needs to support biological research, such as proteomics.

2.2.3 Establish a Laboratory-wide approach to manage/renew the critical equipment (i.e., those with a capital value >\$100K) needed to meet DOE's mission objectives

The Contractor satisfactorily achieved the performance level expected for an **Outstanding** rating for this indicator. Battelle completed a review of 78 percent of the target equipment and established a baseline for determining usage and need. DOE RL agrees that the current systems adequately identify and disposition under-utilized or excess equipment and that processes to obtain needed alignment of equipment that support mission needs of the Laboratory exist and are adequate.

2.3 Provide an integrated management system that enables PNNL mission execution while providing stewardship of DOE assets

This objective measured the development of an integrated management system capable of delivering products and services and complying with applicable requirements. Overall the measures identified below met or exceeded expectations providing for an overall objective rating of **Outstanding** (4.5 value points).

2.3.1 Baseline the effectiveness of management systems deployment

This indicator was to perform a baseline evaluation of the effectiveness of management systems deployment throughout the Laboratory for use in FY 2002 planning. Doing so required the development of an evaluation framework for evaluating effectiveness and identification of improvement areas of Laboratory management systems. Results were to be used to identify potential areas where improvement is most critical in the Standards Based Management System (SBMS).

In accordance with the Indicator criteria, Battelle developed an evaluation framework, evaluated and documented the effectiveness for all SBMS management systems, and analyzed results for all management systems. However, the evaluation and analysis was completed too late to allow for the identification and incorporation of improvements that were based on the results into



management system FY 2002 business plans. Furthermore, the improvements that were identified do not appear to be directly related to improving the management systems. Based on the above this indicator is rated as **Excellent**.

2.3.2 Progress toward the development of the 2nd Generation Management Systems

The term " Second Generation Management Systems" is the laboratory's vision to ensure that they have support processes and staff, facilities and infrastructure, and information technology tools available to enable science and technology research at the Laboratory. This Operational improvement effort:

1. Consolidates efforts to manage the continuous improvement of current management systems.
2. Rationalizes existing requirements and SBMS support delivery mechanisms
3. Improves the Risk/Cost/Benefit Evaluation Process
4. Establishes the design basis for the second-generation management system development. The formal articulation of the customer Service Model workflows contributes to this development.
5. Finalize the Architecture for the Second Generation Management System.

The PNNL Site Office followed the indicator deliverables for development of the Second-Generation Management System very closely and rates the Contractor's performance regarding this indicator as **Outstanding**. The Contractor met all planned targets/milestones towards this objective. Members of the PNNL Site Office were kept apprised of the progress of this initiative through monthly briefings and worked closely with the Contractor's initiative team.

Formal articulation of the Customer Service Model workflows was completed. The process brought in key product line managers, relationship managers, and capability stewards to define expert delivery workflow, relationship management, and capability stewardship functions within the Customer Service Model. In addition, a detailed list of issues was developed for enhancing integration with SBMS including the need for improvements to core business processes supporting the Customer Service Model. A prioritized list of second-generation system's processes and tools were completed and prepared for development in FY 2002. The architecture for the Second Generation Operations Management System was described as an evolution of the existing SBMS. Delivery mechanisms that are currently used by the Laboratory and are not formally recognized by SBMS were identified and a set of criteria were developed through which the improvements may be implemented in FY 2002.

The Expert Delivery process, which was mapped by Battelle this year, appears to provide a good outline of how R&D work in the Laboratory is pursued from the project pre-proposal phase through the closeout of projects. The Expert Delivery process provides a description of the overall work process in the Laboratory that is consistent with the tenets of Integrated Safety Management. The identification of the interfaces with the relationship management and capability stewardship functions further enhances the usefulness of the customer service model in understanding how business is conducted within the Laboratory. The ongoing development of the Customer Service Model workflows should set the stage for Battelle to further define the architecture for Second Generation Managements Systems. Establishment of performance objectives, measures and indicators for the core work process(es) is an essential step to more fully integrate SBMS within the Laboratory.



ELEMENT	Adjectival Rating	Value Points	Indicator Weight	Total Points	Objective Weight	Total Points
2.0 Operational Excellence						
2.1 Provide management and operational excellence in achieving key contract provisions						
2.1.1 Effectiveness of Integrated Safety Management (ISM)	Outstanding	5.0	25%	1.25		
2.1.2 Performance against business management sub-indicators (roll up from Table 2.2)	Outstanding	4.9	35%	1.72		
2.1.3 Sustain and enhance the effectiveness of Integrated Safeguards and Security (roll up from Table 2.3)	Outstanding	4.8	40%	1.92		
Obj 2.1 Total				4.89	40%	1.96
2.2 Optimize capability alignment with current and future mission needs.						
2.2.1 Develop and establish a process for characterizing the Laboratory's technical capabilities	Outstanding	5.0	40%	2.0		
2.2.2 Effective execution of the Facilities Strategic Plan to provide the facility space and infrastructure needed to achieve the vision of the Laboratory for the 21 st Century	Outstanding	5.0	30%	1.5		
2.2.3 Establish a Laboratory-wide approach to manage/renew the critical equipment (i.e., those with a capital value >\$100K) needed to meet DOE's mission objectives	Outstanding	5.0	30%	1.5		
Obj. 2.2 Total				5.0	40%	2.0
2.3 Provide an integrated management system that enables PNNL mission execution while providing stewardship of DOE assets						
2.3.1 Baseline the effectiveness of management systems deployment	Excellent	4.0	50%	2.0		
2.3.2 Progress toward the 2 nd Generation Management Systems	Outstanding	5.0	50%	2.5		
Obj 2.3 Total				4.5	20%	0.9
Outcome Total						4.86

Table 2.1: Operational Excellence Critical Outcome Performance Rating Development



ELEMENT	Adjectival Rating	Value Points	Weight	Weighted Score	Overall Weighted Score
2.1.2 Performance against Business Management sub-indicators					
2.1.2.1 Cost Management Trends: Overhead cost as a percent of Laboratory's 1830 fully burdened average charge out rate	Outstanding	5.0	40%	2.0	
2.1.2.2 Resource Management trends: Direct FTE's as a percent of the total Laboratory FTE's	Outstanding	5.0	40%	2.0	
2.1.2.3 DOE's evaluation of the overall Contractor performance in the business management functional areas	Outstanding	4.49	20%	0.9	
Overall Indicator 2.1.2 Total					4.9

Table 2.2: Performance Indicator 2.1.2 Overall Score Calculation

ELEMENT	Adjectival Rating	Value Points	Weight	Weighted Score	Overall Weighted Score
2.1.3 Sustain and enhance the effectiveness of Integrated Safeguards and Security					
2.1.3.1 SAS Culture	Outstanding	5.0	40%	2.0	
2.1.3.2 SAS Training	Excellent	4.0	20%	0.8	
2.1.3.3 External SAS Evaluations	Outstanding	5.0	20%	1.0	
2.1.3.4 Emerging Threats	Outstanding	5.0	20%	1.0	
Overall Indicator 2.1.3 Total					4.8

Table 2.3: Performance Indicator 2.1.3 Overall Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 2.4: Operational Excellence Critical Outcome Final Rating



3.0 Leadership Excellence (15%)

The Leadership Excellence critical outcome measured the Contractor's leadership and regional partnerships that enables the Laboratory to become recognized as an enduring local, regional, and national asset. The results of the objectives and indicators below provide excellent testimony to Battelle's continued excellence in working with key regional organizations and in strengthening the economic bases of the area. Battelle has also demonstrated continuous improvements in the already strong leadership and staff, which make up the Laboratory. DOE RL agrees with the Contractor's overall adjectival rating of **Outstanding** for this Outcome with 4.84 value points being awarded. Table 3.1 shows how the outcome objective ratings were determined as well as the overall outcome rating.

3.1 Help define and shape the future of the Region by working to establish a robust, sustainable, regional economy

As in years past Battelle's performance in helping to define and shape the regional economy's future has been exemplary and DOE RL is in agreement with the Contractor's self-evaluation rating of **Outstanding** for this objective. The eight companies in which the Laboratory had a role in establishment or expansion brought the total to 50 meeting the goal committed to by Battelle at the beginning of the current five-year contract, this with one year remaining in the contract. The Department commends all of Battelle's efforts in this arena and looks forward to continued success as we work together in shaping the future of the Laboratory, Hanford and the surrounding region.

3.1.1 The number of new businesses started or expanded in the local area where Battelle had a material role in their establishment

DOE RL staff visited each of the eight companies in which Battelle claimed to have had material role in their establishment and/or growth through one or more of its economic development programs. Each of the businesses were evaluated against the following criteria:

- Has a business plan been developed?
- Have the required facilities and/or equipment been obtained?
- Is there a management team in place?
- Has necessary support staff been hired?
- Is necessary financing in place?
- Have markets been identified?
- Is the company's technology protected?
- Are required business licenses in place?
- Has the product or service reached the feasibility study stage of development (minimum)?
- Have potential customers been identified or have actual sales been made?

To be considered a viable business at least seven of the above ten criteria must have been met. Visits to each of the 8 candidate firms submitted by Battelle verified that all eight companies met at least seven of the criteria, which meets the requirement for and an **Outstanding** rating for this indicator.

3.1.2 Effectiveness in providing technical assistance to local firms

Although funding difficulties continued in this area for FY 2001 Battelle once again exceeded expectations by providing technical assistance to 45 local and regional businesses. The results of an end-of-year survey of the businesses assisted during FY 2001 indicated that 100% were "satisfied or better" with the utility of the assistance. As part of the validation of this measure DOE RL staff personally visited six businesses to verify that technical assistance supplied met



their expectations. In all six cases RL found that the expectations had been met and that the companies plan to utilize the program again in the future. DOE therefore agrees with the Contractors self-evaluation of **Outstanding** for this indicator and awards 5.0 value points.

3.1.3 Proactively works with other Hanford contractors and regional entities to help diversify the local economy

Battelle's Self-Evaluation of this measure indicated that they had achieved the outstanding level. To achieve such a rating the Contractor had to work closely with key organizations, such as DOE Prime Contractors, TRIDEC, Ports, Cities, and local chambers, and the frequency of, as well as the quality, of those contacts must have been considered superior by most organizations. DOE RL's review found that Battelle indeed had interaction with not only the Local groups (mentioned above), but the regional groups as well. Below are a few examples of those interactions that took place:

- Battelle had an active role in TRIDEC's efforts to develop a community-based economic development strategic plan, as both a major sponsor and as a participant. This effort is currently known as the Community Roundtable. The Contractor's Economic Development Office (EDO) staff, as well as a Contractor executive, participated in TRIDEC's two facilitated strategic planning workshops and participated, and in one case lead a number of the Roundtable's focus groups. Also, Contractor staff implemented a 40-year model of how Hanford's varying budget will impact income in the local area at the request of the Community Roundtable.
- EDO staff worked with the Washington Technology Center, Washington Office of Trade and Economic Development, The Washington Small Business Development Center, the Spokane Intercollegiate Research and Technology Institute, and private contractors to submit a successful proposal to the Federal and State Technology (FAST) Program. The FAST Program is a federally supported effort to help the states help firms win more Small Business Innovative Research (SBIR) grants. The Washington proposal was awarded \$100,000.
- EDO staff met twice with the new economic development manager for the City of Richland (Mark Smith), including a meeting at which the new Richland City Manager and other City executives discussed the Lab's long-range facility plans. The second meeting concluded with a tour of the Laboratory facilities.
- EDO and other Contractor staff served on several boards and committees, including TRIDEC's Ag Committee, the Tri-Cities Enterprise Center Board, the Governor's Ag/Food Processing Roundtable, the Washington Technology Center Board, TRIDEC's IT Committee, the Pasco Chamber of Commerce's Farm Forum and Ag Expo Committee, and the Biotechnology Association of the Spokane Region's Board.

The DOE RL's verification/validation review included a follow up with some of the partners involved with the above interactions to rate the quality of the relationship and services from their perspective. In all cases they considered the services and cooperation of the Laboratory to be extremely valuable to the accomplishments of team objectives and pointed out that the working relationship with the Contractor was excellent. Based on the observations and other knowledge gained through daily operational awareness DOE RL rates this indicator as **Outstanding** and commends the Contractors work in this area.

3.1.4 Develop and champion at least one new economic development initiative

Part of the vitality of the Laboratory's economic development efforts is that new approaches and initiatives for economic development be devised and pursued. In the absence of new approaches, there is danger that new opportunities will be missed because they don't fit the existing programs, or that the Laboratory's economic development efforts will be taken for granted by stakeholders and therefore ignored, or that complacency will set in. This indicator was designed to assess the degree to which the Contractor developed and implemented useful



and effective new approaches for economic development. Although Battelle championed numerous smaller initiatives, DOE RL's evaluation looked at four major initiatives that were developed and implemented in FY 2001. Below is a description of those initiatives:

- Battelle organized and hosted the ***Alliance of Angels Tri-City Investor Forum***, with support from TRIDEC and the Columbia Basin Advanced Technology Center. At the Forum, two panels of angel investors explained what businesses should do to be more appealing to private investors, and explained what private investors should look for in technology-based opportunities. Four local firms presented business plans to the Alliance, and one of those firms was selected to give its presentation to the entire Alliance membership in Seattle. Eighty-three percent of the attendees found the investor forum very useful. One outcome of the forum included a Contractor's Economic Development Office (EDO) staff member being named as the Alliance of Angels first-ever Honorary Member. This position allows EDO to refer investment opportunities to the Alliance of Angels and to attend monthly investor meetings. Approximately 10 Tri-City firms have given presentations to the Alliance of Angels Board and/or members, one of which received about \$3M in equity investment.
- EDO launched a new electronic newsletter, ***Tri-Cities Tech Business Update***. The monthly e-mailed newsletter covers news, tips, awards, and other information about local technology-based businesses and organizations that support them. At year-end, over 550 tech-related businesses, investors, and economic development stakeholders subscribe to the newsletter in the Mid-Columbia area and regionally. Feedback from subscribers has been very positive, with many saying that they appreciate a single source of local tech-company news. Unsolicited feedback about the newsletter has indicated that its impact is immediate and significant. Most importantly, the newsletter serves as a means to get the appropriate participants working on joint efforts and to recruit the appropriate attendees for technology-based events. DOE RL is sure the impact of the newsletter will continue to grow in the future as more organizations rely on it as the primary source of technology-based economic development information for the Tri-Cities and the surrounding region.
- The Laboratory hosted a daylong workshop, ***"Rainmaking in a Capital Drought,"*** in Richland on August 30, 2001. Forty entrepreneurs and economic development stakeholders attended the workshop, which provided extremely helpful guidance for startup firms who may experience trouble obtaining equity capital in the current financial climate. Feedback from attendees was extremely positive, with 100% of the attendees rating the workshop either excellent or very good (and most rated the workshop excellent) and several local firms stated that they are revising their approaches to seeking funding as a result of what they learned at the workshop. The impact of the workshop should continue in the future when it is made available locally via streaming video on the Web. The impact will also be felt in the future as local firms develop more effective investor pitches based on what they learned at the workshop.
- The Contractor has developed a report, ***Tri-Cities, Washington Innovation and Technology Index***. The report describes many of the characteristics that are important for technology-driven economic development and assesses the degree to which the Tri-Cities exhibits these characteristics. The report also compares the Tri-Cities index to the index done at the state level by the Washington Technology Center, and to characteristics of other selected metropolitan areas. While the report is favorable overall, a few areas for improvement are identified. The report is to be released early in FY 2002 following the development of a release strategy. The purpose of the report is to show the Tri-Cities' strengths and shortcomings as a place for technology-based economic development. Once issued the report will provide local economic development stakeholders valuable information and avenues to tout the advantages of the Tri-Cities as a location for technology-based businesses. Also, the



stakeholders will be able to use the report as a “roadmap” of where to focus future improvement efforts. The report is expected to provide the foundation for the strategic plan to be developed by the R&D Focus Group of TRIDEC’s Community Roundtable.

Based on DOE RL’s evaluation of the above initiatives, information provided by the Contractor and external input, RL concluded that all requirements were met for and agree with Battelle’s self-evaluation rating of **Outstanding** for this indicator.

3.2 Attract, develop and retain the critical staff necessary to achieve simultaneous excellence in S&T, operations, and community trust

Battelle performance in the areas covered by this objective exceeded DOE RL expectation for FY 2001. Not only was the Contractor successful in filling a number of key positions within the Laboratory but has paved the way for continued success through the strengthening of strategic partnerships between the Contractor and the PNNL Site Office and the development of a new program to assist new staff and managers integration into the Laboratory. The new program, made up of several modules, has been designed to help increase staff commitment, understanding of the Laboratory and its programs, and productivity during the first year. DOE RL very pleased with the progress of these programs during FY 2001 and encourages Battelle to continue to learn from and modify these and other like programs to help insure the continuing strengthening of the backbone of the Laboratory, its Leadership and staff.

3.2.1 Regular Contractor/AMT review of strategic capability requirements, actions and results

RL concurs with the contractor’s self-evaluation rating of outstanding. The PNNL Site Office worked closely with the Laboratory’s Associate Laboratory Directors of the four research divisions throughout FY 2001 to evaluate progress in identifying and filling strategic positions within the Laboratory. Much progress has been made in this area. This measure has resulted in increased emphasis on the review of strategic staffing needs and increased communications between AMT and the Contractor on this subject. This interaction resulted in the identification of 14 strategic positions this year, with twelve of these fourteen positions filled during FY 2001. As indicated in the contractor’s self-evaluation, two of the four divisions rated the performance of the laboratory as outstanding and two evaluated the performance as exceptional. The Director LMD concurs with this evaluation. This performance results in a rating of **Outstanding** (4.5 value points).

3.2.2 Develop and pilot a New Staff Integration (NSI) program

RL concurs with the contractor’s self-evaluation of the Invitation to Excellence (ITE) program and the rating of **Outstanding** (5.0 value point). The ITE program was developed and piloted during FY 2001 and was very well received by participants who on average rated the program at 4.5 on a five point scale. The program consists of ten different one hour modules covering topics such as the History of Battelle and the Laboratory; the Laboratory Agenda/Critical Outcomes; Management Systems/Customer Service Model; Meet the HRM; How to Use SBMS; and other topics. The contractor delivered multiple sessions of each module during the fiscal year. This program is targeted to new staff members, but is also available to current staff members on a space available basis. A description of the program and program materials for each module are available on the Laboratory’s home page. This program is addressing the need to better assist staff integrate into the culture of the Laboratory.



ELEMENT	Adjectival Rating	Value Points	Indicator Weight	Total Points	Objective Weight	Total Points
3.0 Leadership Excellence						
3.1 Help define and shape the future of the Region by working to establish a robust, sustainable, regional economy						
3.1.1 The Number of new businesses started in the area where Battelle had a material role in their establishment	Outstanding	5.0	45%	2.25		
3.1.2 Effectiveness of providing technical assistance to local firms	Outstanding	5.0	30%	1.5		
3.1.3 Proactively works with Other Hanford Contractors and regional economic development entities to help diversify the economy	Outstanding	5.0	10%	0.5		
3.1.4 Develop and champion at least one new economic development initiative	Outstanding	5.0	15%	0.75		
Obj 3.1 Total				5.0	50%	2.5
3.2 Attract, develop and retain the critical staff necessary to achieve simultaneous excellence in S&T, operations, and community trust						
3.2.1 Regular Contractor/AMT review of strategic capability requirements, actions and results	Outstanding	4.5	65%	2.93		
3.2.2 Develop and pilot a New Staff Integration (NSI) program	Outstanding	5.0	35%	1.75		
Obj 3.2 Total				4.68	50%	2.34
Outcome Total						4.84

Table 3.1: Leadership and Management Excellence Critical Outcome Performance Rating Development

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 3.2: Leadership and Management Excellence Critical Outcome Final Rating



III. Other Notable Observations

The primary means for evaluation and fee determination, as defined within the prime contract (DE-AC06-76RL01830) between DOE RL and Battelle is the Critical Outcomes identified within Section II of this report. However, as also stipulated within the above-mentioned contract the not including a performance indicator within the Critical Outcomes does not diminish the need for the Contractor to comply with minimum contractual requirements. In determining whether or not the Contractor has continued to meet minimum requirements of the contract DOE RL has utilized operational awareness (daily oversight) activities performed throughout the year; other outside agency reviews (OIG, GAO, DCAA, etc.) conducted throughout the year and information gained during the annual two-week review conducted October 31 through November 16, 2001. Although some strengths and areas for improvement have been noted and communicated to the Contractor throughout the year, no significant strengths or weaknesses were noted that should be considered by the Contracting Officer in adjustment of the overall final rating assigned based on the Critical Outcomes and therefore no adjustments to the otherwise earned fee is being recommended.

Over and above the Critical Outcome reviews conducted and reported on within Section II of this report the PNNL Site Office also conducted a review of the Laboratory's technical division's self-assessment activities conducted during FY 2001 and as well as a review of the Environment, Safety, and Health (ES&H) and Operations/Facility management systems. The following provides the results of these reviews.

1. Technical Divisions Self-Assessment Evaluation:

The primary mechanisms for review and oversight of Laboratory performance under DOE performance-based contracting are performance measures and the Contractor's self-assessment. The PNNL Site Office performed an evaluation of the self-assessment activities conducted by Battelle's technical divisions (Environmental Technology Division [ETD], National Security Division [NSD], Energy Science and Technology Division [ESTD], and the Fundamental Science Division [FSD]). The evaluation was conducted in accordance with the "Science and Technology Programs Team Fiscal Year 2001 Battelle Performance Evaluation Plan," dated April 2001, and focused on information obtained through daily operational awareness (to include Facility Representative surveillance reports), participation in Contractor self-assessment activities conducted throughout FY2001, issues/concerns raised by key contractor customers, and independent assessments (Inspector General, General Accounting Office). The evaluation results are summarized here to document Battelle's Technical Divisions performance in the area of self-assessment.

This evaluation also provides an opportunity for DOE and Battelle to drive continuous improvement through the use of self-assessment results. In that spirit, strengths and areas for improvement are identified. Strengths and areas for improvement previously identified by Battelle self-assessments, which reinforce observations made by DOE, may be re-emphasized as part of this evaluation.

Summary:

The technical divisions continue to build upon their self-assessment processes and make continuous and meaningful improvements. The results of the self-assessment process identified known issues/concerns of key customers and identified actions taken/planned as a result of self-assessment activities. Data collected from both internal and external (feedback from past evaluations, IG/GAO audits, facility representative surveillance reports) sources was used to measure performance and identify areas for improvement.

The high degree of partnering between the division Quality Managers and DOE-RL resulted in quality and timely communication and provided involvement opportunities for RL in self-assessment activities. Those activities included input of suggestions into the self-assessment process, attending peer reviews, the reporting of progress and results, attending program and LDRD reviews, attending division Leadership Team meetings, etc.



The web-based “dashboard” approach implemented or planned to be used by many of the technical divisions seems to be a useful tool to provide focus on the divisions goals and allows for real-time monitoring of self-assessment data. Use of this tool, if maintained up to date, would be valuable throughout the planning execution and assessment portions of the self-assessment.

An area for improvement identified by the facility representatives, and in most cases acknowledged by the technical divisions, is the need for continued improvement in the quality and thoroughness of contractor conducted self-assessments (management and independent assessments) at the activity level (watching work). Consideration should be given to improvements related to documenting assessment plans, identifying standards, documenting assessments, identifying issues, tracking and trending of issues, and making and documenting adequate corrective actions.

The technical divisions should continue to develop and apply performance-based measures to better demonstrate science and technology progress and accomplishment. This should be considered for all elements of the self-assessment including programmatic activities, ES&H, Security, etc.

The divisions have done a good job of identifying indicators in their self-assessment plans to assess their performance relative to meeting requirements identified in the Management Systems. One example is the tracking the number of projects with completed prep & risk documentation. Continued emphasis and actions should be placed on identifying key Management System requirements that should be tracked by the divisions and ensuring performance relative to meeting these requirements is being assessed, tracked and improvement actions taken.

Based on the division level evaluations performed it was determined that no significant strengths or weaknesses exist that should be considered by the Contracting Officer in determination of the final rating.

Specific feedback, by technical division, is provided below.

1.1 Fundamental Science Division (FSD)

FSD Summary:

The involvement in and review of the self-assessment process suggests that FSD continues to build upon their self-assessment process and make continuous and meaningful improvements.

The self-assessment process has appropriate interconnects and feedback loops between primary self-assessment activities and strategic planning, Laboratory level business planning processes, and the FSD business plan. The representativeness of the FSD Self-Assessment documentation is consistent with other performance information (DOE daily oversight, report reviews, peer reviews, interviews of key customers, etc.). The results of the self-assessment process identified known issues/concerns of key customers and identified actions taken/planned as a result of self-assessment activities.

FSD has provided DOE with involvement opportunities in self-assessment activities at an acceptable level of involvement in FY 2001. Those activities included input of suggestions into the self-assessment process, concurrence on an MOU, attending peer reviews, the reporting of progress and results, and other miscellaneous activities.

1.1a Self-Assessment Planning, Execution and Reporting

Summary:

The Laboratory’s strategic planning focus and FSD’s internal needs determines the content of the self-assessment process. FSD’s FY 2001 Self-Assessment Program was organized into the five areas of (1) Customer Focus, (2) Financial and Marketing, (3) Staff, (4) Organizational Effectiveness, and (5) Compliance. This is a shift in nomenclature from FY 2000’s five areas of (1) Impactful Areas, (2) Capability Stewardship, (3) Communication Mechanisms, (4) Climate for Innovation, and (5) Operations Standards, but is largely consistent in content.



Data streams to support self-assessment are collected from sources both internal and external to FSD (and the Laboratory) and are used to identify areas of improvement, measure performance to the Critical Outcomes, assess performance against the division's business plan, and assess compliance to Price-Anderson Amendments Act (PAAA) and other Standards Based Management System (SBMS) requirements.

Strength(s):

A Quality Manager is dedicated to the organization and makes continuous and meaningful improvements to the process as needed. Also, there is a high degree of partnering by the FSD Quality Manager with the PNNL Site Office FSD Program Administrator that aids in communication.

Area(s) for Improvement:

The primary area of improvement that has been identified in FSD is the implementation of a web-based 'dashboard' that allows real-time monitoring of self-assessment data. The 'dashboard' is in the conceptual stage and has not yet been implemented.

1.1b Use of Self-Assessment Results

Summary:

The information output from the self-assessment process is fed back into the Laboratory Business Planning Process and the FSD Business Plan to implement continuous improvement planning. Self-assessment data streams are also used for extracting issues of importance and identifying trends for PAAA and non-PAAA items.

Strength(s):

The results of the self-assessment process are input to feedback mechanisms to stimulate improvement after important information or trends have been identified and communicated. FSD is aggressive in using the results of self-assessment to implement improvements and has identified a number of areas for improvement in FY 2002. A thorough review of the self-assessment plan and results from FY 2001 to identify potential improvements in both what is measured and the metrics used is in the planning stages in FSD.

Area(s) for Improvement:

Compiling areas for improvement identified during the self-assessment process and providing a brief description of how and when they were dispositioned could improve the use of self-assessment results by providing a quick reference status. A real-time function that is part of a web-based 'dashboard' would be ideal. In lieu of the web-based dashboard a quarterly review of the identification-disposition process would be useful.

1.1c Analysis of Self-Assessment Results

Summary:

After review of the technical division's self-assessment results and their use of those results, there are no significant areas that are in need of attention that the contractor has not identified through their self-assessment process. There are, however, several late-breaking topics that should be considered for inclusion into the FY 2002 Self-Assessment:

1. EMSL OIG Audit: Metrics that measure the success of incorporating the OIG's recommendations should be considered (in particular metrics relating to OSTI submissions).
2. User Facility User Statistics: Recently OBER has requested expanded reporting on user statistics for OBER user facilities (EMSL and ARM at the Laboratory) for inclusion in the budget submissions to OMB. Many of these statistics are monitored at the Laboratory as a whole, but are not routinely collected or monitored at the user level. The importance of



these statistics to OMB and funding levels makes them worthy of consideration in self-assessment monitoring.

1.2 Environmental Technology Division (ETD)

ETD Summary:

ETD has successfully utilized the “dashboard” approach in all aspects of the self-assessment process. They have truly “partnered” with DOE RL during this process and it has shown and paid off. The division has a unique approach in focusing their self-assessment process towards strategies and goals rather than just numbers, which has allowed for continuous improvement in the strategy and capability areas as well as operations.

1.2a Self-Assessment Planning, Execution and Reporting (Results)

Summary:

ETD’s self-assessment process is very well structured and crosscutting. They utilize the “dashboard” approach in all three phases, planning, execution and reporting. This lends to a consistent and open process. They have focused more on strategic direction and customer needs rather than on merely number tracking and it has given the entire division more structure and focus toward the areas of Restore, Protect, and Sustain. Numbers are still tracked and reported, however it appears that management attention is sought at an exception level (when items are outside the norm).

Strength(s):

ETD’s utilization of the “Dashboard” approach is easy to use and provides focus. It allows all staff as well as DOE to view results at any time, however they are not real time, as data is only periodically updated as needed. The Dashboard also is used throughout the planning and execution portions of ETD’s self-assessment as well.

ETD is very open with DOE RL in all aspects of their self-assessment process. Their DOE representative is invited, and attends all planning meetings as well as ETD’s Leadership Team meetings. These interactions ensure a partnership in not only the self-assessment process, but throughout all aspects of program implementation as well.

Area(s) for Improvement:

Areas for improvement were identified by the DOE Facility Representatives related to self-assessment at the project/bench top level. This is an area that the contractor is aware of and is looking into.

1.2b Use of Self-Assessment Results

Summary:

ETD has demonstrated their use of results by tracking the measures that are in place and adjusting appropriately, throughout the year, not just on an annual basis. DOE has been in the planning meetings where adjustments were made based on varying factors, such as; new programmatic thrusts, and in cases declining thrusts, and customer feedback.

Strength(s):

The “Dashboard” approach, as well as, the periodic strategic direction meetings has contributed to the success of utilization of results to drive improvements.

ETD tracks various results for action; budget and funding; ES&H (safety) numbers; as well as programmatic indicators. The programmatic indicators afford the ability to change strategic directions and get a better feel for S&T accomplishment.



The division has done a good job of including indicators such as the Project Management System results and has acted on them. They should also look into other Management System requirements that are relevant and report on those as well.

Area(s) for Improvement:

The division has been unable to recruit or push forward any Scientist & Engineer's to the Level VI (highest level within the lab). They are aware of the issue and have been working towards this end, but have been unsuccessful due to various reasons, including; the division is viewed more as the "implementers" of Science and Technology, and it is difficult in the current structure to gain the required credentials.

1.2c Analysis of Self-Assessment Results

After review of the technical division's self-assessment results and their use of those results, there are no significant areas that are in need of attention that the contractor has not identified through their self-assessment process.

1.3 National Security Division (NSD)

NSD Summary:

NSD continues to build upon their self-assessment processes and make continuous improvements. The results of the self-assessment process identified known issues/concerns of key customers and identified actions taken/planned as a result of self-assessment activities. Communication between NSD and DOE RL continues to enhance the partnering relationship.

1.3a Self-Assessment Planning, Execution and Reporting

Strength(s):

NSD Management Team continues to be supportive and encourages participation in the self-assessment process. Management is accessible to staff, understand assessment results and is proactive in taking actions necessary to address issues identified in an effort to improve organizational performance.

The high degree of partnering between the NSD Quality Manager and the PNNL Site Office NSD Program Administrator resulted in quality and timely communication.

DOE RL was kept well informed and invited to participate in many self-assessment activities (program briefings, NSD ES&H quarterly reviews, NSD Security quarterly reviews, LDRD reviews, etc.) as well as notified of results and improvement actions.

Area(s) for Improvement:

Continue to work on developing and incorporating, into the self-assessment plan, performance based goals and indicators to better demonstrate science and technology progress and accomplishment. This should be considered for all elements of the self-assessment including programmatic activities, ES&H, Security, etc.

Continued improvement is needed in the quality and thoroughness of contractor conducted self and independent assessments at the activity level (watching work). This area for improvement has been identified by the DOE Facility Representatives and NSD is aware of the issue and taking actions to address it.



1.3b Use of Self-Assessment Results

Strength(s):

NSD has demonstrated that effective actions are taken in response to self-assessment results and that areas for improvement identified by DOE and external reviewers are taken into account and addressed where appropriate.

NSD was responsive to and took action to address feedback from RL (noted in the FY 2000 evaluation report) related to "...aligning DOE HQ programs expectations with the divisions performance measures and expectations and potentially identifying some involvement and increased visibility for DOE HQ's in the self-assessment process." For the three key headquarters clients (NN, IN, and CN) the Contractor developed, in partnership with headquarters and RL, performance evaluation agreements. These agreements documented evaluation criteria, the process for evaluation and the development of self-assessments. This effort resulted in a better understanding of expectations between HQ, RL and the Contractor and ultimately improved the quality and timeliness of HQ evaluation input. Partnership with NSD in developing the performance evaluation agreements was outstanding.

The self-assessment reports, developed to address programmatic performance in the areas of CN, IN, and NN, provided to the respective client seemed to be useful in providing additional information for HQ's to use as a basis for their evaluations. This was particularly evident in the area of CN. Feedback from the Contractor indicated that conducting these programmatic assessments are beneficial.

Area(s) for Improvement:

In light of many changes in the Department with respect to personnel and mission focus it is essential to continue to build an understanding of expectations between HQ's, RL and the Contractor. Through partnership with RL, consideration should be given to further improvements in this area.

1.3c Analysis of Self-Assessment Results

After review of the technical division's self-assessment results and their use of those results, there are no significant areas that are in need of attention that the contractor has not identified through their self-assessment process.

1.4 Energy Science and Technology Division (ESTD)

ESTD Summary:

ESTD's self-assessment has successfully utilized the "dashboard" approach. The division has focuses on statistics and number tracking for their "dashboard" approach, which gives a good look at the operations and financial information. There is a need to include DOE RL AMT into the programmatic planning and status. This relationship has not reached the "partnering" level that both RL and Battelle have agreed. It is also not clear as to whether or not self-assessment information is utilized in the planning of programmatic thrusts for the laboratory within this division. Recent discussions between DOE RL and ESTD Leadership have agreed upon an appropriate level of interaction and have started to address a potential rework of the Division's self-assessment program.

1.4a Self-Assessment Planning, Execution and Reporting (Results)

Summary:

ESTD's self-assessment process has remained fairly consistent from last fiscal year to the present rating period. They utilize a "dashboard" approach to track and report on self-assessment information, and hold weekly operations meetings to review the information.



Strength(s):

ESTD's utilization of the "Dashboard" approach is easy to use and is accessible via the WEB. It allows all staff as well as DOE to view results at any time, however they are not real time, as data is only periodically updated as needed. On a monthly basis a summary report is compiled and forwarded to the ESTD management as well as their DOE point of contact.

Area(s) for Improvement:

Areas for improvement were identified by the DOE Facility Representatives related to self-assessment at the project/bench top level. This is an area that the contractor is aware of and is looking into.

Interactions between DOE RL AMT and the Contractor have been less than adequate and needs attention. DOE RL has been involved in the reporting process; however; not enough in the planning and execution phase of the self-assessment process. The inclusion of DOE RL in the ongoing strategic direction and status on programmatic activities is also in need of attention. Discussions have taken place to address these issues.

1.4b Use of Self-Assessment Results

Summary:

ESTD has demonstrated their use of results by tracking the measures that are in place and adjusting appropriately, throughout the year, not just on an annual basis for operational self-assessment items.

Strength(s):

The division holds weekly operations meetings to review information, assign appropriate actions, and close out actions related to operations self-assessment information. Quality and Operations personnel from the division hold periodic meetings to go over the information and actions with their DOE point-of-contact. The division has taken appropriate actions on the information and results and have normally followed through and closed the actions.

The division has done a good job of including indicators such as the Project Management System results and has acted on them. They should also look into other Management System requirements that are relevant and report on those as well.

Area(s) for Improvement:

It is unclear as to whether or not the self-assessment is used for development or assessment of strategic programmatic direction or thrust. If this is not the case, self-assessment information beyond the minimal customer feedback route should be used.

1.4c Analysis of Self-Assessment Results

After review of the technical division's self-assessment results and their use of those results, there are no significant areas that are in need of attention that the contractor has not identified through their self-assessment process.

2. Environment, Safety and Health, Facilities and Operations Management System Self-Assessment Evaluations:

The primary mechanisms for review and oversight of Laboratory performance under DOE performance-based contracting are performance measures and the Contractor's self-assessment. The PNNL Site Office performed an evaluation of the self-assessment activities for the following management systems. Overall the Contractor's Management Systems performance continues to improve with some notable areas identified below. Through the partnering relationship between the Management System Owner and the



PNNL Site Office counterpart much progress has been made, resulting in improved self-assessments and helping ensure that the minimum requirements of the contract are being met. In addition to each management systems self-assessment, the Laboratory evaluated the maturity of each management system this year and improvements in each management system, with few exceptions, are separately considered.

2.1. Quality Assurance (QA) Management System

The PNNL Site Office evaluation determined that the Laboratory continues to make progress towards meeting contract requirements. Self-assessment identified credible issues related to the implementation of QA requirements and conduct of self-assessment. As noted in the Quality Assurance Program Assessment, Management System Owners recognized their responsibility for parsed Record of Decision (ROD) units; however, the level of understanding of this responsibility and evidence for implementation of quality elements are not consistent among owners. It is noted that this consistent lack of detail affects the ability to precisely track and assess requirement deployment.

The following conclusions on the overall health of the management system were developed based on the information gathered through the review of assessment evaluations.

- The Quality Assurance Management System met all agreed upon deliverables for FY 2001 as established in the QA assessment plan.
- The owner of the Quality Management System conducted the first self-assessment of QA rule implementation at the Laboratory. This assessment is very valuable in establishing a structured program for developing and delivering quality services and products. The PNNL Site Office was able to participate in the weekly team meetings for this assessment. This review identified credible issues related to the implementation of QA requirements and conduct of self-assessment.
- The self assessment also recognized that all DOE Order 414.1A, *Quality Assurance*, Attachment 1, *Contractor Requirements Document*, and recently revised 10 CFR 830, *Energy/Nuclear Safety Management*, Subpart A, *Quality Assurance Requirements*, requirements are adequately addressed in the program description.
- As noted in the Quality Assurance Program Assessment, Management System Owners recognized their responsibility for parsed ROD units; however, the level of understanding of this responsibility and evidence for implementation of quality elements (DOE Order 414.1A or 10CFR830) are not consistent among owners. It is noted that this consistent lack of detail affects the ability to precisely track and assess requirement deployment.

The Laboratory's Maturity Assessment rated the Quality Management System to be in the beginning stages of maturity but it is also recognized that it is definitely on the right path for continuous improvement. The Laboratory's Management System Maturity Assessment stated that the management system should focus on better defining the purpose of the system and its key functions and processes. Clarifying these entities better allows for definition of the performance expectations and subsequently performance indicators of targeted self-assessments. The Contractor and the PNNL Site Office management system counterpart both believe that the conduct of the programmatic assessment of the deployment of requirements through other management systems was a significant first step in improving the understanding of the systems deployment.

2.2. Integrated Environmental, Safety, and Health Management System (ISMS)

The review of the ISMS indicated that Battelle is continuing to improve on the electronic delivery of policies, standards and procedures as evidenced by the new Standards Based Management system interface.

The successful mapping of the Laboratory Customer Service model Expert Delivery process has created the opportunity to further enhance the implementation of an integrated management system within the Laboratory that fully incorporates environment, safety, and health into work planning and execution; the vision for Integrated Safety Management. The Expert Delivery process should provide Battelle with the ability to develop an architecture for the Second Generation Management Systems



that provides a roadmap for more fully integrating and aligning the SBMS with the actual work processes within the Laboratory. Additional alignment of the processes, functions, and activities that are now described in SBMS management systems and subject areas with the highest-level work processes is an essential integration step that will ultimately lead to higher levels of business performance throughout the Laboratory.

Additional improvement is needed in understanding overall system performance in order to assure risks are effectively managed. The current self-assessments and Laboratory level evaluation does not adequately characterize the compliance risks associated with the contract performance requirements.

2.3. Standard-Based Management System (SBMS)

Significant efforts for improvement in SBMS are represented by the initiatives addressed in Critical Outcome Objective 2.3 above. The Contractor has met, and in some cases, exceeded their performance objectives. The results of performance indicators show that customers are satisfied with the current SBMS and that the system is performing well.

2.4. Worker Safety and Health (WS&H) Management System

Battelle WS&H system continues to effectively provide for the safety of their staff as evidence within the “lagging indicators” evaluated within Critical Outcome Objective 2.1 (see indicator 2.1.1 above). Notable was the Contractor’s achievement of the DOE Voluntary Protection Program (VPP) Gold Star for Superior Performance in WS&H. The application was the first in DOE and OSHA in an electronic form. In addition, the Contractor has made significant accomplishments through their continued implementation of the Integrated Operations System (IOPS) Program/process.

The Laboratory Contract and other requirements were reviewed and a ROD was completed. The level of deployment was determined as part of the management self-assessment process and found to be complete. WS&H is doing a good job of ensuring that Laboratory internal policies meet external requirements in an efficient and effective manner. Increased effort is need to determine and assure that WS&H is fully integrated into all operational processes versus just establishing internal requirements. Even though a self-assessment process is implemented, increased emphasis needs to be considered on item/issue response time, lessons learned, and corrective action.

The following considerations are recommended to enhance the current program:

- Activities to improve flow down of requirements to subcontractors are nearing completion and should be assessed for effectiveness,
- Improvement of issues related to the ergonomic program (i.e., furniture and WISHA rule),
- A Biological Safety Viruses program plan on handling transfer, and receipt of biological etiologic agents at Department of Energy facilities,
- Evaluate Hanford Environmental Health Foundation services provided, including; Employee Job Task Analysis,
- Even though self-assessments are an integral part of the program, increased emphasis is needed on response time, lessons learned, and corrective actions, and
- Maintain VPP Gold Star Status by conducting an annual evaluation, continuing rate reduction, providing an aggressive program of corrective action and assure the required report is provided to DOE HQ, EH-51 by February 15 each year.

2.5. Facility Safety Management System

The FY 2001 performance in the Facility Safety area significantly exceeded the established goals. The major goals achieved, included: Nearly 100% of Facility Managers/Engineers/Planners and Project Managers completing a new qualification program for technical competency. The Management System did a good job in the identification of internal/external requirements to meet the



requirements in a safe and cost effective manner. The system is deployed as one throughout the Laboratory and is seamless between the Laboratory and Battelle private business in both the operations and research sides.

The following considerations are recommended to enhance the current program:

- A Facility Safety management system evaluation is needed to assure that clear responsibilities and authorities are identified and being implemented,
- The IOPS Program needs to be fully implemented through-out the Laboratory,
- Even though self-assessment is an integral part of the program, increased emphasis is needed on response time, lessons learned, and corrective actions (less assessments with more time placed on where are you at and where you are going), and
- At least once a year, a check must be made to verify that safety alarm systems work as designed and can be heard in all occupied areas and distinguished by the occupants.

2.6. Radiological Control Management System

The overall performance of the Radiological Control Management System is significantly improved. Radiological Control Management System maturity has been demonstrated in further growth and improvements in self-assessment activities at the bench top levels.

Of the many improvements implemented in FY 2001, a few are identified here:

- The number of procedure-related Radiological Problem Reports (RPRs) increased during the first quarter of calendar year 2001. As a result Radiological Control began tracking and control-charting procedure related RPRs to better understand their statistical significance. No statistically significant trends were noted, however, a baseline of procedural compliance deficiencies has been established.
- The Laboratory Operations Managers were surveyed and interviewed on the effectiveness of the Radiological Control self-assessment process. Results from the survey will be used to improve the FY 2002 Radiological Control Business Plan.
- One area of weakness noted that a corrective action for a new process that would adequately inform visitors of dosimeter use was not being implemented at all dosimeter issuance locations.

2.7 Environmental Management Services Management System

Overall performance is recognized as significantly improved. Compliance with contractual requirements has improved within the Management System. Based on observation and inspection, the degree of success in which the Laboratory Environmental Management Services meets the expectations of external regulators is exemplary.

2.8 Training and Qualification (T&Q) Management System

The T&Q Management System continued to perform at a high level incorporating significant upgrades to tools, improving usage and reducing costs. The sole T&Q Critical Outcome Performance Indicator exceeded its 95% target (99.3%). A management system maturity assessment conducted on all Laboratory management systems indicated that the T&Q management system was rated the most mature management system within the Laboratory, with the highest scores in all areas reviewed.

The T&Q Management System completed two major upgrades during the fiscal year. One upgrade was an Operations Improvement Initiative (OII) upgrading the Staff Development and Training Planning Tool to a new Job Evaluation Training System (JETS). The other upgraded training tools that provide the PeopleSoft Human Resource Information System. In addition, improvements in training delivery have continued. Most notable was the conversion of the Laboratory's Orientation



Training Program to a web-based delivery improving access and reducing cost. One improvement initiative submitted to incorporate the functionality of the Employee Job Task Analysis into the JETS tool is planned for FY 2003.

Overall the self-assessment program is fairly comprehensive in scope, well managed, and tracked throughout the year, however, it was noted that the process employed does not provide objective data to substantiate the extent to which external and internal requirements and in-process controls are being implemented. The T&Q self-assessment program identified no new significant improvement opportunities for FY 2002. Several instances of weakness in the implementation of nuclear facility training requirements were noted in DOE surveillances during FY 2001. Surveillance S-01-OOD-PNNL-028 completed in June 2001 identified a lack of application of DOE 5480.20A.

2.9 Facility Acquisition and Disposition (FAD) Management System

FAD Performance was maintained this year continuing its effective execution of key Facilities FY 2001 milestones. The completion of planned improvements resulted in the increased effectiveness and efficiency of the management system processes:

- Updates to key planning documents, the Institutional Plan, Strategic Facilities Plan and the 15-Year Facility Plans were completed on time.
- Evaluations of facility portfolio management areas resulted in the development of a Cost Model to support acquisition decisions. The Model is capable of estimating costs for various facility acquisition options (lease, buy, build).
- A database of DOE and Battelle infrastructure revitalization projects was developed to evaluate how well the projects correlated with programmatic research needs. Trending of this data indicates that project prioritization has favored infrastructure improvements over program needs. An attempt will be made to influence project prioritization more in the direction of direct support to research.
- Project delivery effectiveness was measured on selected projects using the Cost Performance Index and Schedule Performance Index.
- Two of three projects met the target values.
- The Configuration Management Program was dramatically improved through the issuance of new procedures and the creation of a Document Center and web-based information access.
- The transfer of 24 excess Laboratory facilities to the Project Hanford Management Contractor was achieved.

2.10 Facility Operations and Maintenance (FOM) Management System

The FOM Overall performance reflected a strengthening program and is based on evaluation of both the self-assessment metrics of the management system and the improved level of maturity observed during the period. The FOM has developed improved performance management tools for understanding operations performance and risks, and has demonstrated capability for improving operations and capability to respond to operational events.

Notable leadership was demonstrated this year by the completion of planning for merging the FOM management system with the Facility Acquisition and Disposition Management System. Facility management challenges are anticipated from Laboratory growth initiatives.

The FOM also demonstrated its leadership and initiative as a learning organization by hosting the Seattle Chapter of the International Facility Management Association's (IFMA) "Best of the Northwest" Facility Management Conference. The Contractor learned and shared operations management practices applicable to the Facility Management field with over 90 Facility Management



Professionals from the United States and Canada. This event also demonstrated some integration with the Laboratory's Research and Development organizations by giving the Laboratory an opportunity to showcase innovations.

2.11 Safeguards and Security Management System

The Safeguards and Security Management System continues to meet or exceeded expectations as identified by the sub-indicators addressed in CO indicator 2.1.3.

2.12 Emergency Preparedness

Battelle exceeded their performance objectives for FY 2001. Improved performance was observed in the areas of increased number of building emergency preparedness drills conducted (48 drills vs. 32 scheduled), and significantly increased number of corrective actions completed. The Contractor made substantive contributions to the June 2001 Hanford Site-wide Exercise as well as the Site Tabletop, and Site Limited exercises. Battelle provided the Senior Emergency Preparedness Advisor for the Site Management Team during the Hanford Site annual Field Exercise for FY 2001. Battelle also participated with DOE and other Site contractors in developing information for the Emergency Operations Metrics Data Sheets requested by the DOE HQ Office of Security and Emergency Operations and Office of Science.

The Laboratory EP Program Office has expanded its role beyond Site Emergency Preparedness through its work with DOE, Fluor Hanford Inc., and Bechtel Hanford Inc. in regard to "Outreach" Emergency Preparedness programs.

2.13 Integrated Assessment Management System (IAMS)

The IAMS program description was updated in FY 2001. Changes provided a clearer description of the processes, tools, functions, services and products delivered through the management system. The Integrated Assessment Program management system purpose is to provide the processes and tools that enable fact-based decision making at the Laboratory through self-assessment. The primary process delivered by the Integrated Assessment management system is self-assessment. The self-assessment process is the key method by which organizations quantify performance to 1) assure improvement in those areas important to their success, and 2) demonstrate effective and efficient management to our stakeholders and customers. The Department of Energy expects the Laboratory to be effective in delivering processes that are compliant with Laboratory and contractual requirements and contribute to the end products of the Laboratory. The DOE expects that staff understand and use the processes delivered as appropriate to their responsibilities. It is also envisioned that expectations and requirements of all key stakeholders (e.g., DOE RL, DOE HQ, internal customers) are consistently and appropriately being met.

DOE has recognized through the review of contractor self-assessments, performance information, and operational awareness, that Management System Owners (MSO) need to establish expectations for information gathered through the performance of self-assessments. It is the systems' owner responsibility to provide those systems that have parsed responsibilities for requirements expectations, what type of information that would prove valuable to their management systems. The underlining concern is that the level and effectiveness of self-assessment is inconsistent among various Contractor organizations. The August 2000 IO assessment (Evaluation of Integrated Assessment Program) supports this concern by recognizing that management system owners are not conducting sufficiently rigorous self-assessments to provide objective evidence that their systems are fully deployed or in full compliance.

DOE has also established, through review of follow on actions derived from previous reports by the Independent Oversight organization, that there are inconsistencies in the rigor applied to tracking and closure of deficiencies among organizations. There are several items from an IO report relative to



self-assessments that are in concert with concerns DOE currently has. At least four subsequent assessments have identified continuing issues with the conduct of self-assessment. The Contractor has not completed effective corrections to the self-assessment process identified in a number of internal and external assessments. Completion has not yet occurred in part due to the complexity of the actions. The condition owner for these items is the Integrated Assessment Management System (IAMS) owner. It would be advantageous to both DOE and the Contractor to recognize the effort that has been placed previously on this issue and get to the root of why efforts to date have not been successful in correcting this issue.

Through the partnering relationship between the Management System Owner and the PNNL Site Office counterpart much discussion has taken place relative to self-assessment and ensuring that the minimum requirements of the contract are being met. IAMS will be incorporating a self-assessment that will look at the translation and implementation of requirements as designed in the contract. This type of assessment will help improve the implementation of the management system and through our partnering relationship we will ensure that both parties understand and agree to the implementation of requirements. The Integrated Assessment Management System FY 2002 Self-Assessment Plan demonstrates commitment of continuous improvement and managing operational risks.

2.14 PAAA INDEPENDENT OVERSIGHT

The Contractor's program providing Independent Oversight (IO) under the Price-Anderson Amendment Act (PAAA) conducted a follow-up on the status of the Laboratory wide Self Assessment Program evaluation. The FY 2000 evaluation determined and documented which Operating Groups or Organizations fell under the PAAA enforcement program. It was also noted that program requirements were not being properly identified, deployed, and implemented. During FY 2001 the Contractor significantly increased the awareness level of PAAA. A recent DOE HQ review by EH-10 gave the Laboratory PAAA Program a high rating noting that it appeared to be effective. The following considerations are recommended enhancements of the current program:

- An IO evaluation is needed to provide guidance to various Management Systems on the current operating practice of "user pay philosophy."
- Much of the cost in the PAAA covered areas drive the operating cost of the various Management Systems up. It needs to be determined by IO the new and innovative ways of safe and cost effective operations.

RL-F-1325.6 (02/98)

United States Government

Department of Energy
Richland Operations Office**memorandum****DEC 06 2001**

DATE:

REPLY TO

ATTN OF:

A&E:GMB/02-A&E-020

SUBJECT: REPORTS FOR BUSINESS MANAGEMENT OVERSIGHT (BMO) REVIEW OF
BATTELLE MEMORIAL INSTITUTE'S (BATTELLE) MANAGEMENT AND
OPERATION OF THE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)TO: Paul W. Kruger, Associate Manager
for Science and Technology

Attached are reports on the Fiscal Year (FY) 2001 BMO Review of BMI's management and operation of PNNL. This review was conducted October 31 through November 15, 2001, by a multi-discipline team of U.S. Department of Energy Richland Operations Office (RL) business management specialists, and covered 18 functional areas. An exit meeting was held on November 19, 2001, to discuss the results of the review. RL received BMI's comments to the initial reports and considered those comments in preparing the enclosed reports.

The results of the review are presented in two reports. Attachment 1 contains the evaluations from the RL business management organizations that elected to use the two-week onsite review period to verify and/or validate BMI's performance at PNNL, and submit a detailed report that includes the objective of the review, review steps performed, results of the review, strengths, weaknesses, recommendations, and an adjectival performance rating. Attachment 2 contains the evaluations from RL business management organizations that did not require the onsite field verification and/or validation time in order to provide their evaluations, and/or elected to provide their assessments and adjectival performance ratings in brief narratives.

Based on the results of the review team, RL concluded that BMI is generally exceeding performance expectations for the functional areas reviewed. The weaknesses identified in the enclosed reports will be addressed through mutually agreed-upon performance objectives, measures, and expectations for FY 2002 and/or monitoring through daily operational awareness activities. The overall performance ratings from the functional evaluation reports are summarized below.

		Out-standing	Excel-lent	Good	Mar-ginal	Unsatis-Factory
Attachment 1	Evaluations from the Onsite Review	2	3		1	
Attachment 2	Evaluations Other Than Those Addressed in the Onsite Review	11	2			
	Totals	13	5		1	

Paul W. Kruger
02-A&E-020

-2-

Please issue these reports to BMI as the final reports for the BMO Review for FY 2001. If you have any questions or concerns, you may contact me, or your staff may contact Gerry Bell, Analysis and Evaluation Division, on (509) 376-0680.



Lloyd L. Piper, Administrator
Office of Performance Evaluation

Attachments (2)

1. Onsite Review
2. Other than Onsite Review

cc w/attachs:

G. L. Amidan, PRO
F. D. Beard, SHQ
G. M. Bell, A&E
V. F. Boston, OTS
S. T. Burnum, OSS
D. M. Collado, ESD
J. C. Connerly, PRO
M. A. Coronado, LMD
R. Cruz, HRM
T. L. Davis, LMD
R. L. Dawson, PRO
L. R. Downing, LMD
E. A. Erichsen, OTS
B. A. Fain, HRM
G. R. Giesick, PRO
C. S. Henderson, LOD
R. M. Kilbury, OTS
A. E. Lorenz, PRO

M. K. Marvin, IPI
K. J. Massey, BUD
N. Mendez, FIN
C. A. Meyers, OTS
D. E. Moody, LMD
N. D. Moorer, FSO
J. E. Ollero, OTS
S. U. Ortega, HRM
P. E. Rasmussen, PRO
D. L. Schafer, BUD
Y. T. Sherman, IPI
G. M. Splett, OSS
J. L. Spracklen, SES
R. L. Stutheit, SES
M. L. Talbot, IPI
R. R. Tibbatts, BUD
J. L. Tokarz-Hames, SES
J. W. Wiley, LMD
S. H. Wisness, OSS

BUSINESS MANAGEMENT OVERSIGHT
REVIEW OF
BATTELLE MEMORIAL INSTITUTE'S
MANAGEMENT AND OPERATION OF THE
PACIFIC NORTHWEST NATIONAL
LABORATORY

ONSITE REVIEW

NOVEMBER 2001

PREPARED BY THE
U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE

**U.S. DEPARTMENT OF ENERGY (DOE)
RICHLAND OPERATIONS OFFICE (RL)
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE MEMORIAL INSTITUTE'S MANAGEMENT (BATTELLE) AND
OPERATION OF THE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)
ONSITE REVIEW
OCTOBER 31 – NOVEMBER 15, 2001**

EXECUTIVE SUMMARY

INTRODUCTION

In accordance with DOE O 224.1, "Contractor Performance-Based Business Management Oversight Process," RL business management specialists conducted the annual Fiscal Year (FY) 2001 multi-discipline business management onsite review of Battelle Memorial Institute's (referred to as Battelle) management and operation of PNNL during the period of October 31 to November 15, 2001. This report presents the results of that review, for the RL business management specialists who elected to participate in the review and submit a report that addressed the following: the objective of the review, review steps performed, results of the review, strengths, weaknesses, recommendations, and an adjectival performance rating.

The BMOP provides that one multi-disciplinary business management onsite review of each contractor may be conducted annually. Additionally, the BMOP provides that the contractors will conduct a self-assessment in the business areas based upon mutually agreed-upon, predetermined performance objectives, measures, and expectations. Intervening reviews will not be conducted except on a "for cause" basis.

OBJECTIVE AND SCOPE OF REVIEW

The primary goal in conducting the onsite review was to verify and validate Battelle's self-assessment of business management performance objectives, measures, and expectations agreed upon by RL for FY 2001. The scope of this review, however, was not limited to the review of Battelle's self-assessment, so that some RL review participants could perform additional steps.

Functional areas covered in this onsite review report include Budget, Finance, Internal Audit, one area of Life Cycle Asset Management (LCAM), Personal Property, and Procurement.

RL elected to not include the following functional areas as part of this onsite review report: Administrative Services; Classification/Declassification; Congressional, Public, and Intergovernmental Affairs; Diversity; Emergency Management; Energy Management; Human Resources; Information Management; Laboratory Institutional Planning; LCAM (except for the one area mentioned above); Scientific and Technical Information Administration; Technology Partnerships Administration; Training; Worker and Community Transition; and Work-for-Others Administration. These functional areas are addressed in the separate report (Attachment 2) for the evaluations other than those addressed in the onsite review report.

REVIEW METHODOLOGY

The overall model for the BMOP is to combine RL operational awareness and the annual onsite review with an effective contractor self-assessment to provide a reasonable assurance of acceptable business practices. The cornerstone for this model must be well-defined performance objectives, measures, and expectations that "drive the business." RL determines success through self-assessments, "daily" operational awareness of contractor activities, the annual onsite review, and other reviews conducted throughout the year. The combination of these activities is intended to provide reasonable assurance of effective and efficient business practices.

RL business management specialists developed review objectives for each functional area, which were provided to Battelle management prior to the onsite review. Planned review steps were discussed with Battelle during the entrance meeting. The review was accomplished by reviewing Battelle's self-assessments, conducting interviews with Battelle managers and staff, reviewing documentation, and walking through processes. The emphasis was placed on performance results and improvement of business management systems.

At the conclusion of this review, participants provided an adjectival performance rating for each functional area reviewed. The ratings represent RL's FY 2001 evaluation of Battelle's effectiveness in meeting performance expectations and complying with applicable requirements.

SUMMARY OF REVIEW RESULTS

Based on the results of this review, we concluded, with reasonable assurance, that overall Battelle is meeting our expectations. Although we identified some weaknesses during the review, there were several offsetting strengths. None of the areas appear to warrant an additional, in-depth, "for-cause" review, and only the Procurement functional area warrants careful monitoring of Battelle's progress in implementing their corrective action plans. Further details about the review are contained in the functional area reports, which are included in the Appendices that follow this executive summary. The overall performance ratings for each functional area are tabulated below.

Tabulation of Performance Results

Appendix	Functional Area Title	Out-standing	Excel-lent	Good	Mar-ginal	Unsatis-factory
1	Budget		X			
2	Finance		X			
3	Internal Audit		X			
4	LCAM – Configuration Management	X				
5	Personal Property	X				
6	Procurement				X	
	Totals	2	3		1	

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**FUNCTIONAL AREAS OF REVIEW AND
 RL REVIEW TEAM MEMBERS**

REPORT OUTLINE

<u>Individual Reports</u>	<u>Areas of Review</u>	<u>Review Staff</u>	<u>Page</u>
Appendix 1	Budget	Kandi J. Massey Dianna L. Schafer	4
Appendix 2	Finance	Neomi Mendez	6
Appendix 3	Internal Audit	Gerry M. Bell Charles A. Marsh	12
Appendix 4	LCAM-Configuration Management	Doroteo M. Collado Chad S. Henderson	16
Appendix 5	Personal Property	VaNita F. Boston Ryan M. Kilbury	19
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BUDGET

I. Functional Area of Review

Budget

II. Objective of Review

Validate PNNL's self-assessment regarding Anticipatories to determine if the agreed upon performance objective was met. Also, look at the capital vs. operating process to determine accuracy with DOE orders and the knowledge of the process at the lab.

III. Review Steps Performed

- a. Reviewed the anticipatory report and actual anticipatory packages.
- b. Reviewed the capital vs. operating process and interviewed a selection of project managers with budgets containing capital funds.

IV. Results of Review

- a. We did not review all of the anticipatory packages we requested, we were told by staff that they "couldn't find them". Of the ones we did review, supporting documentation in some cases was missing or not included in the package. Also, in some instances the anticipatory coverage requested was not sufficient to cover the overrun.
- b. The PNNL guidance on capital vs. expense determination was accurate. Most project managers did not appear very knowledgeable on the specifics of the guidance as they relied heavily on their finance support personnel. This seems appropriate but no documentation was found that describes the project manager vs. the finance responsibility on this subject.

V. Strengths

- a. There has been a vast improvement in the quality of the comments section of the anticipatory report.

- b. The Point of Contact on the self-assessment anticipatory process did an outstanding job in revising the measures to meet the expectations of the RL counterpart and also to make sure the deliverables requested were timely and complete.
- c. The project managers had complimentary words for the knowledge of their finance support personnel.
- d. Most project managers knew the \$25,000 threshold for capital funding.

VI. Weaknesses

- a. The quality of the supporting documentation for the anticipatories is lacking in some cases.
- b. Many project managers seemed unsure of their responsibilities regarding capital vs. expense determination.

VII. Recommendations

- a. The signatories to the anticipatories should require physical documentation supporting the anticipatory. The procedure needs to be reinforced throughout the lab.
- b. Capital vs. expense determination procedures need to be strengthened so that project managers know their responsibilities.

VIII. Performance Rating

“Excellent” – While we are very happy with the self-assessment measures and results, areas covered in our two week BMOP review and other issues that occurred throughout the year did not fare as well in our overall satisfaction. We believe there is room for improvement so rated PNNL as Excellent.

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FINANCE

I. Functional Area of Review

Finance

II. Objective of Review

The RL-Finance Division (RL-FIN) overall objective for this review is based on the following three areas:

- a. A cursory assessment of PNNL's 36 Finance Performance Measures.
- b. An evaluation of BMOP's review selected below.
- c. RL-FIN operational awareness of the PNNL Finance area.

RL-FIN selected the two items below for BMOP review:

- a. Review PNNL's intellectual property (IP) process for tracking IP activity across Battelle necessary for 1830 contract.
- b. Review PNNL's Interlaboratory Authorization (ILA) process to ensure PNNL is in compliance with policies and procedures approved by RL.

III. Review Steps Performed

PNNL's IP Process

- a. Reviewed the internal IP procedures.
- b. Reviewed the fourth quarter self-assessment source data supporting the IP data.
- c. Reviewed and discussed the IP process with PNNL to determine if the process could be improved.
- d. Discussed the two instances where unallowable costs were charged to the 1830 contract and the corrective action plan.

PNNL's ILA Process

- a. Reviewed RL's approval of PNNL's revised ILA proposal dated December 10, 1998.
- b. Reviewed PNNL's informal procedures and other relevant documentation on ILAs.
- c. Reviewed the fourth quarter self-assessment source data supporting the required review of ILAs.
- d. Discussed the ILA process with PNNL to determine if the process could be improved.

IV. Results of Review

The results on the three overall objectives of this review are detailed below:

Cursory Assessment and Evaluation of the FY 2001 Performance Measures

PNNL provided a fourth-quarter self-assessment evaluation with an "Outstanding" rating. RL-FIN validated two of the 36 performance measurements. PNNL successfully met their objective in performing an internal review of 1830 ILA Authorizations to other Battelle components with a value greater than \$100K. PNNL is on schedule to meet their FY 2001 performance objective in tracking IP activity across Battelle necessary for 1830 contract administration. However, we encountered two instances where unallowable charges were charged to the 1830 contract. PNNL reversed the unallowable IP costs and added an additional edit in the monthly process to ensure that no additional unallowable costs get charged to the 1830 contract.

Operational Awareness of the PNNL Finance Area

RL-FIN operational awareness of the PNNL Finance area is based on an assessment of the DOE-HQ's Critical Financial Performance Measures (some of which are included in the 36 measures), closure of internal audit findings and DCAA audit findings, PNNL's rework file, and a subjective assessment of PNNL's overall performance.

The DOE-HQ Critical Performance Measurements are:

- a. Zero repeat findings for DCAA Audits and Internal Audits. PNNL did not have any repeat findings for DCAA Audits and Internal Audits.
- b. Contractor travel costs managed within established targets. PNNL maintained cost well within established travel targets.
- c. Maintain or reduce functional cost from the prior year (FY00). PNNL maintained functional costs percentages in FY 2000.

PNNL had several rework items listed in the file maintained by RL (Conference Annual Report, PNNL's Proposal on Actual and Reasonable, PNNL's Proposal on Timekeeping

Changes, FY 2001 Accounting Practice Changes, PNNL's Proposal to increase their travel ceiling, etc.).

Although there are some deficiencies noted above, we also noted that PNNL has:

- a. PNNL has been proactive in working with internal audit and closing all of the outstanding internal audits referenced in FY 2000 BMOP and improved closure of pending actions within 90 days of planned date for actions items resulting from Internal Audits in FY 2001.
- b. Implemented a new purchasing card agreement with higher rebate levels.
- c. Implemented a new Hanford site banking agreement.
- d. Implemented a new IP Financial System.
- e. Implemented a new exempt labor policy that is innovative in its approach; simultaneously achieving State of Washington statutory requirements, providing staff the charging flexibility desired by PNNL's management and appear to meet the needs of the government for adequate controls.

Based on our selected two items we reviewed, PNNL is on schedule to meet their FY 2001 performance objective for tracking IP activity across Battelle necessary for 1830 contract administration. Additionally, PNNL successfully met their FY 2001 performance objective for performing an internal review of 1830 ILAs to other Battelle components with a value greater than \$100K. The detailed results of our review are below:

1. Per the information gathered on IP, PNNL is on schedule to meet the expected goal, which states that the Tracking of Technology Transfer Third Party Receipts Report will be submitted to DOE within the November 2001 timeframe. During our review, 12 IP charge codes out of 1,503 were randomly selected for testing. We encountered one instance where unallowable costs were charged to the 1830 contract out of the selected sample. The unallowable costs that were charged to the contract were due to PNNL staff incorrectly coding the work package as government funded instead of contractor funded. As soon as this error was detected, an attempt was made to correct the oversight but not all of the costs were captured for the correction. Since we encountered one instance where unallowable cost was charged to the contract, RL requested PNNL to run a query for similar circumstances and encountered one other instance of unallowable cost that was charged to the contract in FY 1999. Both instances have been corrected and the adjustment entries will be reflected in FY 2002. These corrections were for the amounts of \$106.70 and \$312.25. Our review of the IP process showed the following areas needing improvement:
 - a. There is a lack of written internal procedures for certain technology commercialization processes. Processes that are documented (some in draft form) include apportionment, fairness of opportunity, avoiding substantial interference, licensing to Battelle subsidiaries/affiliates and managing potential conflict of

interest. Processes that need documentation include the technology transfer program (90 day) decision, commercialization package/charge code setup and expense allocation, and the patent decision/charge code setup processes. PNNL is planning on presenting the above internal procedures to DOE in the January timeframe.

- b. The latter two processes noted above should include procedures for maintaining source input supporting the correct charge code setup.
 - c. PNNL should submit apportionments annually for DOE review. However, DOE is not approving the apportionments at this time.
 - d. Another edit should be used in the monthly financial process to validate that cost corrections are fully implemented with particular emphasis on those involving corrections of erroneous charges to the 1830 contract.
2. PNNL's self-assessment of ILAs shows that they met expectations per the prescribed measure. PNNL's reports provided sufficient detail that support PNNL's assessment results. Our review of the ILA process indicated the need for improvement in the following areas:
- a. Internal desk procedures should be updated to correspond with DOE's guidance approved on December 10, 1998.
 - b. Current ILA forms should be used to increase or decrease funds on ILAs with a cumulative value or cost equal to or greater than \$100K. Emails could be used to increase or decrease funds on ILAs that are less than \$100K. The ILA form or email should also include an appropriate justification for the increase or decrease of funds.
 - c. Supplements (of any dollar amount) to ILAs with a cumulative value over \$100K should be forwarded to Cost-Price Analysis.
 - d. Overruns should be monitored and tracked to ensure adequate controls are in place.

V. Strengths

- a. Implemented a new IP Financial System.
- b. ILA files were well documented per current internal procedures.

VI. Weaknesses

- a. There is a lack of written internal procedures for certain technology commercialization processes. Processes that are documented (some in draft form) include apportionment, fairness of opportunity, avoiding substantial interference, licensing to Battelle subsidiaries/affiliates and managing potential conflict of interest.

Processes that need documentation include the technology transfer program (90 day) decision, commercialization package/charge code setup and expense allocation, and the patent decision/charge code setup processes. PNNL is planning on presenting the above internal procedures to DOE in the January timeframe.

- b. The latter two processes noted above should include procedures for maintaining source input supporting the correct charge code setup.
- c. PNNL should submit apportionments annually for DOE review. DOE is not approving the apportionments.
- d. Another edit should be used in the monthly financial process to validate that cost corrections are fully implemented with particular emphasis on those involving corrections of erroneous charges to the 1830 contract.
- e. Internal desk procedures on ILAs should be updated to correspond with DOE's guidance approved on December 10, 1998.
- f. Current ILA form should be used to increase or decrease funds on ILAs with a cumulative value or cost equal to or greater than \$100K. Emails could be used to increase or decrease funds on ILAs that are less than \$100K. The ILA form or email should also include an appropriate justification for the increase or decrease of funds.
- g. Supplements to ILAs with cumulative value over \$100K should be forwarded to Cost-Price Analysis.
- h. Overruns should be monitored and tracked to ensure adequate controls are in place.

VII. Recommendations

- a. PNNL should update internal process/procedures to correspond with current practices for the entire IP process.
- b. Work orders for patenting and marketing expenses should be formalized and documented. The work orders documentation should include the justification on the allocation between DOE and Battelle. PNNL should also notify DOE when they are charging contractor funded IP to DOE, if it meets the criteria as Local Economic Development.
- c. PNNL should submit apportionments annually for DOE review. However, DOE is not approving the apportionments.
- d. An additional edit should be added to the IP month-end process that validates that no costs are charged to the 1830 contract after the work package has been closed and validates that cost corrections are fully implemented with particular emphasis on those involving corrections of erroneous charges to the 1830 contract.

- e. ILA internal processes should be updated to correspond with DOE's guidance approved on December 10, 1998.
- f. Current ILA forms should be used to increase or decrease funds on ILAs with a cumulative value or cost equal to or greater than \$100K. Emails could be used to increase or decrease funds on ILAs that are less than \$100K. The ILA form or email should also include an appropriate justification for the increase or decrease of funds.
- g. Supplements (of any dollar amount) to ILAs with a cumulative value over \$100K should be forwarded to Cost-Price Analysis.

VIII. Performance Rating

"Excellent"

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INTERNAL AUDIT

I. Functional Area of Review

Internal Audit

II. Objective of Review

Validate PNNL's self-assessment in the Internal Audit functional area to determine if the agreed-upon FY 2001 performance expectations were successfully met.

III. Review Steps Performed

- a. Obtained PNNL's Internal Audit self-assessment and compared the accomplishments reported for each of the performance expectations to the documentation received from PNNL in their monthly briefings and at other times during the year. Evaluated the information obtained for reasonableness.
- b. Reviewed a random sample of PNNL's Internal Audit working papers to determine if:
 - The audits were completed in accordance with the audit standards prescribed by the Institute of Internal Auditors (IIA),
 - PNNL fully disclosed all material conditions found during the audits,
 - PNNL management has accepted the audit report recommendations,
- c. Reviewed PNNL's audit follow-up "Assessment Tracking System" to determine if outstanding audit recommendations are being tracked.
- d. Interviewed PNNL and RL individuals to determine if PNNL provided DOE Office of Inspector General (OIG) investigation referrals within 20 days of receipt or by agreed to dates, and coordinated timely responses to OIG and General Accounting Office (GAO) requests for information.

IV. Results of Review

On an overall basis, we believe that PNNL has met their FY 2001 Internal Audit performance expectations. The detailed results of our review are below, organized by performance expectation:

- a. PNNL submitted an Annual Audit Plan for FY 2002 by June 15, 2001, that was in accordance with the OIG Cooperative Audit Strategy and acceptable to DOE. As part of their Annual Audit Plan, PNNL considered the RL and OIG audit emphasis areas and incorporated an acceptable risk-ranking methodology to logically assign audit resources.
- b. PNNL consistently completed their audits in accordance with the audit standards prescribed by the IIA.
- c. PNNL completed 9 of the 18 tasks - audits, management reviews, and special requests - that were mutually agreed-upon in the FY 2001 Audit Plan schedule (for this expectation, a task is considered complete when the final report is issued). We noted that 9 of the mutually agreed-upon tasks were carried over from prior years (8 from FY 2000 and 1 from FY 1999), and 7 of those were completed. We also noted that for comparison purposes, 43 percent of the FY 2000 Audit Plan schedule was comprised of tasks carried over from prior years, indicating that this same sort of anomaly existed in FY 2000. In response, PNNL's Internal Audit Director pointed out that the number of agreed-upon tasks completed during FY 2000 and FY 2001 was consistent with the average number of tasks completed yearly since FY 1992.

From our perspective, while the number of agreed-upon tasks completed is consistently the same from year to year, the number of tasks proposed by PNNL and agreed-upon by RL appears to have been unrealistically high over the prior two years. The result has been a relatively large backlog of uncompleted tasks that has been carried over to the subsequent year. The PNNL Internal Audit organization might have perfectly logical reasons for not being able to complete all of their proposed tasks during the current year, and we need to be open to those reasons because we do not want to sacrifice quality for quantity. However, our concern is that the audits and related tasks that are being carried over from the prior year and completed during the current year are being completed at the expense of the high-ranking audits that have been identified and proposed by PNNL for the current year.

- d. PNNL fully disclosed all material conditions found during the audits. In our opinion, the resulting findings were significant and meaningful and the recommendations were valid and practical.
- e. PNNL obtained Management's acceptance for 35 out of 37 audit findings, or 94.6 percent of the time. The findings and recommendations accepted by Management have contributed notably to the management processes of formulating and implementing improvements to PNNL's operational policies and procedures.
- f. PNNL participated in the IIA Global Auditing Information Network program, which allows the Internal Audit organization to compare its audit life cycle timing to industry benchmarks as defined by the IIA. We noted that for the category of total elapsed days from beginning fieldwork to issuing the final report, PNNL averaged 270 days in FY 1999 and 279 days in FY 2001. We also noted that PNNL's Internal Audit organization had a 50 percent turnover in staff, beginning in July 2000 and

extending into FY 2001, and the new auditors had to learn how to use the computerized working paper software that PNNL began using a couple years ago. We were told that another contributing factor was an approximately two man-month gap in staffing during FY 2001 as a result of short-term disabilities.

- g. PNNL did not receive any OIG investigation referrals during FY 2001.
- h. PNNL received one OIG/GAO information request during FY 2001 and responded in a timely manner.
- i. PNNL tracked all uncompleted audit report recommendations and submitted open action item reports within 15 calendar days after the end of each quarter.
- j. PNNL submitted its FY 2000 Annual Report of audit activities on February 7, 2001, one week after the January 31, 2001 due date. However, the local OIG audit staff indicated that the one-week delay did not significantly impact the OIG audit schedule.

V. Strengths

- a. PNNL consistently completes audits in accordance with professional standards.
- b. PNNL achieves a high percentage of Management's acceptance of audit recommendations, and provides high quality recommendations that appear to have a significant positive impact for improving the operational efficiency and effectiveness of the Laboratory.
- c. PNNL promptly responds to OIG and GAO information requests.

VI. Weakness

Over the past two years, PNNL has completed fewer audits, management reviews, and special requests than originally proposed by PNNL and agreed-upon by RL. From our perspective, this is the area where the PNNL Internal Audit organization can improve.

VII. Recommendations

We recommend that the PNNL Internal Audit organization implement steps to catch up on the scheduled tasks and eliminate, or greatly reduce, the carryovers. At a minimum, in our opinion, PNNL Internal Audit should consider the following possible actions to accomplish this:

- a. Combining audits and related tasks that have similar work scope,
- b. Risk-ranking the management reviews and special requests when they are received, and pushing back if they are not high ranking,
- c. Including the prior-year carryover audits and related tasks in the risk-ranking process when developing the subsequent Fiscal Year's Annual Audit Plan, and dropping the

low-ranking tasks that are not yet completed, thus creating a current-year schedule based on risk with minimal (if any) carryover included, and

- d. Monitoring the trends in elapsed days and addressing the related causes.

VIII. Performance Rating

“Excellent” – PNNL’s performance expectations for FY 2001 were primarily quantitative in nature and PNNL satisfactorily met eight of the nine applicable expectations. While PNNL’s Internal Audit organization experienced difficulty in completing all of the mutually agreed-upon audits and related tasks, the quality of the work completed was excellent. The findings and recommendations submitted by Internal Audit and accepted by Management were of high quality and appeared to make a significant contribution towards improving the operational efficiency and effectiveness of the Laboratory.

PNNL’s Internal Audit Director pointed out to us that the FY 2001 performance expectations did not provide a way to give credit to their organization for the internal investigations they performed for PNNL and reported to DOE during the year. We agree with this observation and will make every effort to re-negotiate performance expectations for FY 2002 that will take into consideration the diverse nature of the work handled by the PNNL Internal Audit organization as well as the quality of the work completed.

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LIFE CYCLE ASSET MANAGEMENT

I. Functional Area of Review

Configuration Management (CM)

II. Objective of Review

The objective is to evaluate the status and improvements of the PNNL Facility & Operations' (F&O) CM program.

III. Review Steps Performed

- a. Reviewed the F&O CM program. The review included a presentation and discussions on the results of last year's review, program and implementation improvements, current goals, and the F&O's Document Center.
- b. Toured the Document Center. The tour included discussions with Document Center personnel and a demonstration of electronic delivery of facility information.
- c. Reviewed CM related to F&O's Targeted Self-Assessments reports of September 2000, January 2001, and July 2001.

IV. Results of Review

- a. Integration, completeness, and implementation of the CM program have improved significantly since the last review. There appears to be a greater F&O-wide appreciation of CM and management support of the CM improvements.
- b. The review revealed a sound procedural base addressing CM Policy, Program Requirements, and Program Standards. The essential CM elements and sub-elements have been identified. Gaps and areas of improvement were previously identified in the "Facility & Operations Targeted Self-Assessment of Facility Configuration Management Program" document dated September 2000. Programmatic actions were identified, corrected, and closed. This was validated in the July 2001 report.
- c. Targeted Self-Assessments of the CM program and of program elements that provide useful information for continuous improvement were completed in September 2000, January 2001, and July 2001 with the next self-assessment scheduled for June 2002. DOE has been invited to shadow this assessment.

- d. The establishment of the F&O Document Center and the associated processes necessary for a reliable, effective electronic delivery of CM related facility information is considered a significant upgrade to the maintenance and control of CM related facility information. The completeness of the CM related facility records and the effectiveness of acquiring, maintaining, and distributing the information are simple general indicators of the maturity of the CM Program.
- e. The goal for reaching the "managed" level of programmatic maturity is the end of FY 2002. CM elements needed to reach this level of programmatic maturity are implemented or are being implemented. FY 2002 program goals have been identified and the timeline is being established to accomplish these goals.
- f. Ten F&O individuals hold certification sponsored by the International Society of Configuration Management. Additional training to reinforce the CM philosophy was with a CM overview course (CM 101), developed for personnel within the Directorate, has been taught, and is available on the web. An advanced course (CM 201) is ready for deployment for targeted individuals. The CM philosophy has been incorporated into the Facility and Operations Leadership classes.

V. Strengths

- a. Assertive management of the CM program fostering integration of CM philosophy and practices throughout the Directorate.
- b. Frequent, regular Targeted Self-Assessments of the CM Program and of program elements.

Accomplishments

- As a result of the January 2001 Targeted Self-Assessment, Facility Essential Drawings are being replaced by Key Drawings. The original drawings are considered to be the facility baseline drawings. More information on Key Drawings is found in ADM-CM-069, Graded Approach and Risk Assessment. All F&O personnel that are affected by this change have been trained to the process for selection, unique markings, and the purpose of Key Drawings. The definition has also been added to the F&O Dictionary available on the web. With the changes in the program, drawings are now updated when there is a change either by a Facility Modification Permit or by a new project that affects the drawings.
- The F&O Document Center procedure was established with the approval of PNNL's Records Management.
- Procedures ADM-CM-070, Software Management, and ADM-CM-078, Change Control for Facility and Operations Information Systems, were established to verify the quality and accuracy of F&O databases.

low-ranking tasks that are not yet completed, thus creating a current-year schedule based on risk with minimal (if any) carryover included, and

- d. Monitoring the trends in elapsed days and addressing the related causes.

VIII. Performance Rating

“Excellent” – PNNL’s performance expectations for FY 2001 were primarily quantitative in nature and PNNL satisfactorily met eight of the nine applicable expectations. While PNNL’s Internal Audit organization experienced difficulty in completing all of the mutually agreed-upon audits and related tasks, the quality of the work completed was excellent. The findings and recommendations submitted by Internal Audit and accepted by Management were of high quality and appeared to make a significant contribution towards improving the operational efficiency and effectiveness of the Laboratory.

PNNL’s Internal Audit Director pointed out to us that the FY 2001 performance expectations did not provide a way to give credit to their organization for the internal investigations they performed for PNNL and reported to DOE during the year. We agree with this observation and will make every effort to re-negotiate performance expectations for FY 2002 that will take into consideration the diverse nature of the work handled by the PNNL Internal Audit organization as well as the quality of the work completed.

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PERSONAL PROPERTY

I. Functional Area of Review

Personal Property

II. Objective of Review

The objective of the review was to validate survey results and to review statistical analysis of specified measures mandated by DOE headquarters. These national targets serve as baselines for the complex. Property management statistics are gathered for all sites and used for analysis and trending purposes.

III. Review Steps Performed

RL reviewed the results of customer survey results, which deal with customer satisfaction, staff training, and overall efficiency of operations. All survey data was verified through discussions with Property Management and through inspection of a small sample of survey data.

IV. Results of Review

Battelle should take great pride in their Property Management function, as it is "outstanding" and should receive a 4.7 for this fiscal year. There are certainly areas for improvement remaining and attention should be paid to them in the coming fiscal year.

V. Strengths

- a. Battelle Property Management is proven in their ability to meet deadlines and deliver quality products. Improvements have been made in the past fiscal year, which demonstrate Property Management's ability to rise to the occasion.
- b. Property Management is in constant communication with RL in discussing upcoming events or issues and providing RL with the information necessary to assist Property Management in a timely manner.

VI. Weaknesses

- a. An area of concern from FY 2000 that remains a concern in FY 2001 is the number of abandonments in place. Battelle has continued throughout this fiscal year to make

adjustments in this area and has substantially increased the completion of these legacy loans and Cooperative Research and Development Agreements (CRADA's) by 51 percent in FY 2001.

- b. An area of mutual concern to Battelle and RL is the Excessing and Disposal process and how not only to better service the needs of Battelle, but how to improve the working relationship with the Excessing contractor.

VII. Recommendations

- a. In addition, early FY 2002 results are producing donations rather than abandonment, which was the desire of this office. With continued input by RL and continued improvement in language contained within Loan Agreements and CRADA's, this situation should be mute by this time next year. Property Management has taken proactive steps during this fiscal year to improve the CRADA process for return of equipment. It is incumbent upon Property Management to continually insist from the procurement office timely and complete contracts and enforcement of contractual language in regards to the return of property to the Hanford Site.
- b. The proper communication and identification on forms with the Excessing contractor is an area in need of improvement. This has been discussed with PNNL Property Management and improvements in communication and clarifying what is required on forms has been agreed to with the Excessing contractor. RL will study this area for next year's evaluation for both Battelle and the Excessing contractor to determine what progress has been made.

VIII. Performance Rating

"Outstanding" – 4.7

**RICHLAND OPERATIONS OFFICE
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE MEMORIAL INSTITUTE'S (BATTELLE) MANAGEMENT AND
OPERATION OF THE PACIFIC NORTHWEST NATIONAL LABORATORY (PNNL)**

PROCUREMENT

I. Functional Area of Review

Procurement

II. Objective of Review

There were two objectives of the Procurement review.

a. Balanced Scorecard Report

The objective of this review was to validate Battelle's self-assessment of its purchasing system as documented in its annual Balanced Scorecard (BSC) Report, and based on that report, make a determination on the adequacy of Battelle's purchasing system. This determination is an annual DOE requirement.

b. Purchase Card Program

The objective of this review was to review the Battelle purchase card program to verify that adequate management controls exist and to verify compliance with all applicable regulations and procurement policies and guidelines.

III. Review Steps Performed

a. Balanced Scorecard Report

Battelle submitted quarterly reports through the 3rd quarter of FY 2001. The RL Contracting Officer performed cursory reviews of the 1st and 2nd quarter reports with minimal comments and concerns. Due to concerns over the 3rd quarter results, additional backup documentation was requested and received from Battelle. The documentation was reviewed and a draft letter stating RL concerns was sent to Battelle via electronic mail. A meeting with representatives from RL and Battelle was held on October 15, 2001, to discuss and clarify the concerns. A final letter dated October 23, 2001, was sent to Battelle. Battelle submitted a response dated November 12, 2001, to this letter. Although the response did not address all of RL's questions, Battelle did acknowledge numerous errors in its BSC review/report and has provided good corrective action plans (CAPs) which are to be incorporated into the PNNL Acquisitions Management System Self-Assessment & Balanced Scorecard Plan for FY 2002. Battelle submitted its BSC FY 2001 Report on November 13, 2001. This report was reviewed by RL. The review

focused on validating the self-assessment report, instead of verifying the data contained in the report through on-site inspection.

b. Purchase Card Program

During the two-week on-site review, RL reviewed the Purchase Card procedures for cardholders, the cardholder delegation files, the cardholder invoice files, and the administrative management software.

IV. Results of Review

a. Balanced Scorecard Report

Battelle has given itself an overall rating of “marginal” for FY 2001. The major areas needing improvement are cost/price analyses, employee satisfaction, and information availability. Battelle has already taken steps to improve in the area of cost/price analyses and is in the process of creating CAPs for the other areas. During FY 2001, Battelle reorganized by combining its Finance Directorate and Contracts Department to form the Business Support Services Directorate. As a result of this merger, Battelle is re-engineering its self-assessment procedures and metrics for the Acquisition Management System, updating all of its acquisition guidelines and policies and procedures, and has identified several areas needing improvement and CAPs. For each area needing improvement, Battelle has committed to create CAPs, submit the plans for RL review and comments, incorporate the plans into the FY 2002 PNNL Acquisition Management System Self-Assessment & Balanced Scorecard Plan, closely monitor Battelle’s progress against those plans, and provide quarterly reports to RL.

b. Purchase Card Program

Battelle has 884 cardholders with approximately 770 having activity on a monthly basis. Battelle’s web-based guidance and procedures for cardholders thoroughly address cardholder limits, purchasing restrictions, responsibilities, available contracting vehicles, source lists, and penalties for misuse. The software used to monitor transactions, coupled with Battelle’s contractual relationship with the bank, provides a unique element of control for monitoring purchase card transactions. Transaction detail, usually at line-item level, is provided by the bank for download into Battelle’s administrative management software for reconciliation by cardholders. The software automatically identifies each 10th submittal for audit by administrators.

V. Strengths

a. Balanced Scorecard Report

Battelle did well in the following areas (earning maximum available points):

- Customer Perspective;
- Internal Business Perspective, Effective Internal Controls;

- Internal Business Perspective, Effective Utilization of Alternative Acquisition Approaches;
- Internal Business Perspective, Streamlined Processes;
- Good Corporate Citizenship;
- Financial Perspective, Operating Cost; and
- Learning and Growth Perspective, Employee Alignment.

b. Purchase Card Program

Battelle's administrative management software for purchase cards is well designed for the level of activity. The receiving functionality and bank interface significantly reduce the opportunities for misuse and improve detection of misuse. In addition, Battelle has been proactive in identifying a means to improve the automated auditing function by adding audits on new cardholders. Battelle has simplified handling of incorrect sales tax charges by negotiating with the state, rather than processing refund transactions through the cardholders. Battelle appears to be proactive in improving accountability under its purchase card program.

VI. Weaknesses

a. Balanced Scorecard Report

Although not necessarily weaknesses, Battelle could do better in the following areas (did not earn maximum available points):

- Internal Business Perspective, Effective Supplier Management;
- Internal Business Perspective, Acquisition Process Average Cycle Time; and
- Internal Business Perspective, Competitive Awards.

Battelle needs improvement in the following areas, which are considered weaknesses:

- Financial Perspective, Cost/Price Analyses;
- Learning and Growth Perspective, Employee Satisfaction; and
- Learning and Growth Perspective, Information Availability.

b. Purchase Card Program

No significant weaknesses identified.

VII. Recommendations

a. Balanced Scorecard Report

The Balanced Scorecard self-assessment process continues to need major improvement. As a minimum:

- Battelle must ensure the credibility and reliability of its self-assessment of the Acquisition Management System.
- Battelle must provide candid results, root cause analyses, CAPs, and the monitoring of progress against the CAPs after implementation.
- Battelle must continue to improve sampling techniques to identify key attributes and to be representative of the desired populations.
- Due to the re-engineering of the Acquisition Management System self-assessment, Battelle must submit and get RL approval of all metrics and their corresponding weights.

Battelle should submit its recommendations for metrics, ratings, and scoring as part of the final PNNL Acquisitions Management System Self-Assessment & Balanced Scorecard Plan for FY 2002. DOE-RL will review the recommendations and will discuss any concerns with Battelle. The agreed to changes will be included in the final PNNL Acquisitions Management System Self-Assessment & Balanced Scorecard Plan for FY 2002.

Battelle should continue to perform root cause analyses to identify systematic problems and develop CAPs to correct noted deficiencies and problems. The emphasis of the self-assessment should be on continuous improvement.

Notwithstanding numerous past findings in the Cost/Price Analysis area, Battelle continues to have problems in the area of Cost/Price Analysis. Battelle has written and submitted CAPs in the Cost/Price area. It is imperative that Battelle continues to closely monitor compliance in this area and provide reports to RL on a quarterly basis on the progress against those CAPs.

b. Purchase Card Program

Battelle should evaluate cardholder assignments for opportunities to consolidate usage and minimize risk. Battelle should also contemplate a comprehensive internal audit of its purchase card program because such an audit has not taken place since 1995.

VIII. Performance Rating

“Marginal” – Based on the information above, RL has determined that Battelle’s overall self-assessment rating of “marginal” is an appropriate rating. This determination took into consideration Battelle’s commitment to successfully meet the following conditions:

- Battelle shall review and update all of its acquisition guidelines, policies, and procedures and submit to RL for approval by December 31, 2001.
- Battelle shall review all areas of concern, all areas with low scores or low compliance, and all areas listed above in the “weaknesses” section and shall submit CAPs to RL for review and comments. The CAPs shall then be incorporated into the PNNL Acquisition Management System Self-Assessment & Balanced Scorecard Plan for FY 2002, by December 31, 2001.

- Battelle shall continuously monitor the metrics in the PNNL Acquisition Management System Self-Assessment & Balanced Scorecard Plan for FY 2002, and all CAPs, and shall provide a detailed report to RL on a quarterly basis, to include progress against the CAPs.

In accordance with FAR 44.305-2, RL must approve Battelle's purchasing system on a yearly basis. RL will take into consideration Battelle's accomplishment of the above stated conditions when evaluating its purchasing system for approval for calendar year 2002.

BUSINESS MANAGEMENT OVERSIGHT
REVIEW OF
BATTELLE MEMORIAL INSTITUTE'S
MANAGEMENT AND OPERATION OF THE
PACIFIC NORTHWEST NATIONAL
LABORATORY

EVALUATIONS
OTHER THAN THOSE ADDRESSED
IN THE ONSITE REVIEW

NOVEMBER 2001

PREPARED BY THE
U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE

**U.S. DEPARTMENT OF ENERGY (DOE)
RICHLAND OPERATIONS OFFICE (RL)
BUSINESS MANAGEMENT OVERSIGHT REVIEW
OF BATTELLE MEMORIAL INSTITUTE'S MANAGEMENT (BATTELLE) AND
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EVALUATIONS OTHER THAN THOSE ADDRESSED IN THE ONSITE REVIEW
NOVEMBER 2001**

EXECUTIVE SUMMARY

INTRODUCTION

In accordance with DOE O 224.1, "Contractor Performance-Based Business Management Oversight Process," and as part of the RL annual Fiscal Year (FY) 2001 multi-discipline business management onsite review of Battelle management and operation of PNNL that was conducted during the period of October 31 to November 15, 2001, RL requested evaluations from the RL business management specialists who elected to not participate in the onsite review, for their functional areas of responsibility. This report presents the results of those additional evaluations.

The performance-based business management oversight process (BMOP) provides that one multi-disciplinary business management two-week review of each contractor may be conducted annually. For Battelle, the BMOP review includes an onsite review as well as the evaluations other than those addressed in the onsite review. Intervening reviews are not to be conducted except on a "for cause" basis.

OBJECTIVE AND SCOPE OF REVIEW

The primary goal in conducting these evaluations was to address Battelle's performance against business management performance objectives, measures, and expectations agreed upon by RL for FY 2001. The scope of these evaluations also included Battelle's self-assessment and knowledge gained through daily operational awareness activities during the year.

Functional areas included in this report are those functional areas that were not included in the onsite review: Administrative Services (Library); Classification/Declassification; Congressional, Public, and Intergovernmental Affairs; Diversity (included in Human Resources); Emergency Management; Human Resources (including Diversity); Information Management; Laboratory Institutional Planning; one area of Life Cycle Asset Management (LCAM); Scientific and Technical Information Administration; Technology Partnerships Administration; Training; Worker and Community Transition; and Work-for-Others Administration.

REVIEW METHODOLOGY

The primary methodology used by the RL business management specialists consisted of: evaluating Battelle's self-assessment against the predetermined performance objectives,

measures, and expectations; evaluating Battelle's performance based on knowledge gained through their daily operational awareness activities during the year; and providing an adjectival performance rating for each business functional area reviewed. The ratings represent RL's FY 2001 evaluation of Battelle's effectiveness in meeting performance expectations and complying with applicable requirements.

SUMMARY OF REVIEW RESULTS

For the 13 evaluations, we concluded that overall Battelle is exceeding our expectations. Although we identified some areas for improvement during the evaluations, they were more than offset by the strengths. None of the areas appear to warrant an additional, in-depth, "for-cause" review. Further details about the evaluations are contained in the functional area evaluations, which are included in Appendix 1 of this report. The performance ratings are tabulated below.

Tabulation of Performance Results

Rpt.	Functional Area Title	Out-standing	Excel-lent	Good	Mar-ginal	Unsatis-factory
A	Administrative Services – Library	X				
B	Classification and Declassification	X				
C	Congressional, Public, and Intergovernmental Affairs	X				
D	Emergency Management	X				
E	Human Resources		X			
F	Information Management – Records	X				
G	Laboratory Institutional Planning	X				
H	LCAM – Value Engineering		X			
I	Scientific and Technical Information Administration	X				
J	Technology Partnerships Administration	X				
K	Training	X				
L	Worker and Community Transition	X				
M	Work for Others Administration	X				
	Totals	11	2			

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**FUNCTIONAL AREAS OF REVIEW AND
RL REVIEW TEAM MEMBERS**

REPORT OUTLINE

<u>Individual Reports</u>	<u>Areas of Review</u>	<u>Review Staff</u>	<u>Page</u>
A	Administrative Services – Library	Yvonne T. Sherman	4
B	Classification/Declassification	Ricky L. Stutheit	4
C	Congressional, Public, and Intergovernmental Affairs	Michael L. Talbot	5
D	Emergency Management	Judy L. Tokarz-Hames	5
E	Human Resources	Santos U. Ortega Bartley A. Fain Mark A. Coronado Gary R. Giesick	5
F	Information Management – Records	Gail M. Splett	10
G	Laboratory Institutional Planning	Terry L. Davis	10
H	LCAM - Value Engineering	Frederick D. Beard Chad S. Henderson	11
I	Scientific and Technical Information Administration	Yvonne T. Sherman	12
J	Technology Partnerships Administration	Donald E. Moody	13
K	Training	Colleen A. Meyers	13
L	Worker and Community Transition	Donald E. Moody	15
M	Work for Others Administration	Lynnette R. Downing	15

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A. Administrative Services – Library:

Operational awareness of the Hanford Technical Library (HTL), operated for DOE by PNNL, is maintained throughout the year in conversations with library staff as needed, and bi-monthly meetings of the Hanford Technical Information Council (HTIC) during which issues affecting the HTL can be raised, and on which the Library is well represented.

The HTL continued to add to the collection of products available to the Hanford Site staff from their desktops. A major achievement this year was making the library's catalog available through the web. The library added over 100 new electronic journals to the collection, with sixteen of these journals added through a DOE-wide consortium. The Library also partnered with several Project Hanford Management Contractors, including Flour Hanford and Flour Federal Services, to provide desktop access to over 17,000 electronic standards. The Library added to its print collection as well, with the addition of 955 new books. A new focus this year has been to increase access to technical reports, so over 1000 reports were added to the library's catalog.

Library staff regularly and actively participates in HTIC; in addition, the Library manager actively participates in the complex-wide Library Operations Working Group. The HTL continues to meet program expectations. The overall rating for FY 2001 is outstanding.

B. Classification/Declassification:

The PNNL Classification Office and National Security Analysis Team (NSAT) perform their functions in an outstanding manner. These organizations are constantly being called upon by outside organizations for assistance in technical analysis of a particular area of classification; guidance writing; detailed reviews; and historical aspects of Hanford production activities.

The PNNL NSAT has a very senior and knowledgeable reviewer staff. They are reviewing more documents for sensitivity than any other site in the complex. They have a growing reputation throughout DOE of doing high quality reviews. The team provided significant assistance in response to several litigation actions.

The PNNL Classification program is also composed of knowledgeable reviewers. Knowledgeable individuals who perform classification reviews are the "gate keepers" between the protection and the release of information. In the past year, the PNNL Classification Office was called upon by DOE Headquarters to assist in the development

of both classification and Unclassified Controlled Nuclear Information guidance. In addition, they have been requested to provide a comprehensive briefing to the classification Technical Evaluation Panel on the Tritium target and recommended declassifications. This is a demonstration of the confidence that DOE Headquarters has in the knowledge of the Classification staff.

Overall, PNNL's performance in the Classification and Declassification areas is outstanding. PNNL has exceeded our expectations. Documents are generated and classified appropriately. Document declassification reviews are of the highest quality and the product is in a format that is conducive to public release.

C. Congressional, Public, and Intergovernmental Affairs:

Battelle has continued to perform at an outstanding level in congressional, public, and intergovernmental affairs. The contractor consistently displays a proactive approach to communicating with the public and targeted audiences through outreach efforts locally, regionally, and nationally. The contractor continues to have success with timely placement of articles in influential media outlets as evidenced by numerous articles in national publications.

D. Emergency Management:

The Emergency Management requirements under the BMOP are met through daily oversight activities, independent assessments, and tracking of performance through a metrics process established by DOE Headquarters. On January 20, 1999, the Director, Office of Field Management agreed that the performance measures and metrics included in the Emergency Readiness Assurance Plans would satisfy the BMOP requirements for headquarters oversight of the field.

In addition, the PNNL and RL Emergency Preparedness (EP) managers met prior to the beginning of FY 2002 to discuss performance outcomes, objectives, and indicators for the PNNL EP program. RL concurs that PNNL has met the objectives agreed upon for FY 2001.

The RL Emergency Preparedness Program Manager rates the PNNL EP program as outstanding for FY 2001.

E. Human Resources:

Performance Objective Assignments

	<u>Performance Objective</u>
Santos Ortega	6.0, 7.0
Mark Coronado	1.0, 3.0, 4.0, 9.0
Gary Giesick	5.0, 8.0

Overall Performance:

RL's overall evaluation of PNNL's Human Resources organization for FY 2001 is excellent. This rating differs from PNNL's self-evaluation of Outstanding. While the HR organization has made significant progress against their self-assessment measures, RL feels that the performance as demonstrated by these measures equates to excellent performance. Several key initiatives, most notably the Gallup Q12 staff engagement, the Invitation to Excellence program, and clarification of (in concert with RL) the Laboratory's compensation philosophy were successfully completed this year. These key initiatives were accomplished while the contractor maintained the appropriate level of focus and attention on all other HR matters. The Management Skills Development program continues to evolve and is having an impact on the overall management and leadership of the Laboratory. This has also been a good year for the contractor in terms of identifying and hiring for key and strategic positions to support laboratory critical and strategic needs. HR's self-evaluation process is well established and continues to improve and mature over time. The same can be said of the partnership between the contractor HR organization and RL staff responsible for oversight.

Performance Objective 1: PNNL Staff are satisfied with the tools, resources, and information available to aid in their development

Element 1 of Performance Objective 1.0:

The contractor has met expectations for element 1 of Objective 1. A staff development website was developed and piloted this fiscal year. Overall staff response was positive with an average score of 3.5 on a five-point scale from those who used and evaluated the pilot site. Revisions were made to the website based on user feedback and the website has been deployed.

Element 2 of Performance Objective 1.0:

The contractor's development and deployment of the New Staff Integration program (now called the "Invitation to Excellence" program) has been outstanding. Staff reaction to the program has been extremely favorable, with the program receiving an average score from attendees of 4.5 out of 5.

Performance Objective 2.0:

This element was removed from PNNL's self-assessment plan at the mutual agreement of RL and PNNL in May 2001.

Performance Objective 3.0: Continue to implement developmental opportunities for PNNL managers/leaders through the Management Skills Development Program, while increasing participation levels across the lab

The Management Skills Development program has been very successful at providing developmental opportunities to managers and leaders at PNNL. This innovative program

provides managers with a good foundation and understanding of Battelle, PNNL, the Battelle business model, and various general management skills. One telling measure of its success and value is that staff members view the program as value added and vie to participate.

Element 1 of Performance Objective 3.0:

The contractor exceeded expectations on this objective by having more than 80 percent of PNNL targeted managers successfully complete the program.

Element 2 of Performance Objective 3.0:

Performance in this element was outstanding, with 89 percent of the FY 2000 Management Skills Development Program remaining active in the 2nd year of the program by participating in elective courses. This far exceeds the expected level of 45 to 55 percent participation and is yet another indicator of the value of the program.

Performance Objective 4: Provide effective and efficient planning and delivery tools for successful assessment and identification of future leaders

Element 1 of Performance Objective 4.0:

While the contractor met expectations on this measure by delivering a suite of preferred provider mechanisms to address leadership development needs on schedule, it is noteworthy that the lab has selected a well respected and widely used staff engagement model, the Gallup Q12 staff engagement survey. More importantly, the contractor has invested significant thought and effort into incorporating the overall philosophy of staff engagement as a key strategic initiative within HR and the Laboratory. This approach, when successfully implemented, could result in significant improvements in staff engagement and leadership within the Laboratory, leading to improved performance.

Element 2 of Performance Objective 4.0:

The contractor exceeded expectations for this objective by completing the assessment as scheduled and by beginning to pilot a program in response to the findings in FY 2001 (this was not called for). The survey identified training needs for scientists and engineers that were used to develop a professional development series for scientists and engineers.

Performance Objective 5.0: Provide effective and efficient recruiting resources to meet customer requirements and enable PNNL and DOE in meeting business objectives and strategic business positioning

Element 1 of Performance Objective 5.0:

The rationale for Element 1 of this performance objective was for PNNL to identify specific strategic positions that must be filled by highly qualified individuals. These positions are deemed critical to the PNNL mission in support of DOE. Progress through

the year was coordinated with AMT and Richland Operations Office of Procurement Services (RL-PRO) and reported quarterly. Fourteen (14) positions were identified as critical and 12 of the 14 positions were filled with qualified individuals (see attachment). The PNNL Self Assessment rates the recruiting effort as "Exceeded Expectations" and DOE-PRO agrees with this assessment.

Element 2 of Performance Objective 5.0:

The rationale for Element 2 of Performance Objective 5.0 was for PNNL to deploy the elements of the R & R tool-kit to increase retention and recruitment of critical skills personnel. DOE approved the toolkit on February 9, 2001, and PNNL had provided guidance to the Human Resource manager's by March 12, 2001. We think it is still too soon to fully evaluate the impact. The success of the critical skill recruitment, detailed in Element 1, indicate some success. In addition, the number of critical skill vacancies has shown a gradual decrease from the October 2000 levels. The PNNL Self-Assessment indicates an "Exceeds Expectations" result and RL-PRO agrees with the assessment although, 2002 will give a more accurate view due to the February DOE approval and March implementation.

Element 3 of Performance Objective 5.0:

After extensive review and negotiations with RL-PRO a Comprehensive Philosophy Document was signed early in 2001. After review by Dr. Green and a Defense Contract Audit Agency some additional changes were negotiated. This new agreement is currently in final review and will be signed by the CO in the near future. PNNL indicates an "Exceeds Expectations" evaluation for the element and RL agrees.

Performance Objective 6: Increase women and minority utilization in targeted job groups

Element 1 of Performance Objective 6.0: Increase representation of women in management positions (18.7 Percent FY 2000 Utilization)

The contractor has met expectations for element 1 of Objective 6. There was a net increase of 0.60 percent in FY 2001 compared to the FY 2000 baseline of 18.7 percent. This performance falls within the range of meets expectations. In order for PNNL to have received a "exceeds expectations" on this objective they would have had to increase by more than 0.80 percent over the FY 2000 Baseline. Additionally, only aggressive fourth quarter efforts by PNNL salvaged this element, prior to the fourth quarter they were significantly in the red (minus 0.81 percent) on this element.

Element 2 of Performance Objective 6.0: Increase representation of women in S&E positions (21.1 Percent FY 2000 Utilization)

The contractor did not meet expectations for element 2 of Objective 6. There was a slight net decrease of 0.20 percent in women in Science and Engineering (S&E) positions from the baseline of FY 2000. Even though PNNL had a good recruitment year in hiring

women in the S&E category, it wasn't enough to offset the net decrease that resulted from women in the S&E category being promoted into the management ranks. In order for PNNL to have received a "meets expectations" it would have had to at least maintain the FY 2000 status, which it was not able to accomplish. Another important note was that this element was in the red every quarter.

Element 3 of Performance Objective 6.0: Increase representation of minorities in management positions (4.8 Percent FY 2000 Utilization)

The contractor has met expectations for element 3 of Objective 6. The contractor increased their minority representation by 1.00 percent over the FY 2000 baseline. Slight and steady increases each quarter resulted in PNNL almost attaining "exceeds expectations" on this element. An area that was discussed with PNNL staff that could have put them over the top was effective recruitment of minorities from the outside into management positions. The Lab needs to maintain their aggressive diversity recruitment efforts started in FY 2001 in FY 2002 to continue to show long-term positive gains.

Element 4 of Performance Objective 6.0: Increase representation of minorities in S&E positions (9.5 Percent FY 2000 Utilization)

The contractor has met expectations for element 4 of Objective 6. PNNL's continued attention to this element throughout FY 2001 resulted in a positive gain of 0.50 percent over the FY 2000 utilization. Aggressive fourth quarter efforts resulted in gains that were more than double what the previous 3 quarters had netted. These fourth quarter efforts were almost enough to reach an "exceeds expectations" rating. PNNL needs to continue their aggressive internal promotion campaign of women and minorities and augment it with more effective external recruitment strategies for overall best results.

Performance Objective 7.0: Support and Promote an inclusive work environment where creativity and innovation is enhanced through the assistance of Diversity Programs (This measure was formally removed from the HR Self- Assessment Program at the end of the 2nd quarter)

Performance Objective 8.0: Provide a total compensation system that is competitive in the market in order to attract and retain qualified, diverse workforce

Element 1 of Performance Objective 8:

The rationale for Element 1 of Performance Objective 8.0 was for providing competitive compensation for PNNL staff, particularly the S&E personnel. The RL-PRO approval letter for the 2001 Compensation Increase Plan provided specific guidance for deployment of a Critical Skills Adjustment to address company ratio problems and PNNL has implemented the guidance. The PNNL Self Assessment indicates an "Exceed Expectations" for this Element 1 and RL-PRO agrees.

Element 2 of Performance Objective 8:

The rationale for Element 2 of Performance Objective 8.0 was for PNNL to have base salary ranges set at the median of the relevant national, regional, and local surveys. Based on the current available survey information PNNL has met this element and RL-PRO agrees with this assessment. During 2002 additional information (a local survey) will become available that will allow RL-PRO to more fully evaluate compensation levels. PNNL has fully participated and is to be commended in providing input to the Tri-Cities Compensation Survey.

Performance Objective 9.0: Manage HR budget within PNNL guidelines, while continuing to provide quality services to the lab

HR's overall budget performance was excellent, they came in 4.5 percent below budget. This budget performance was realized while HR continued to improve existing programs and service to Lab customers and also introducing several new key initiatives.

F. Information Management – Records:

PNNL records management activities are rated as outstanding.

PNNL has become very proactive in their Records Inventory and Disposition Schedules (RIDS). They have electronically linked to other internal PNNL project management and financial systems to ensure that records requirements are identified at project inception.

PNNL has also vigorously encouraged retirement of active office holdings – sending over 2,000 boxes of records to lower cost storage.

G. Laboratory Institutional Planning:

Based on overall operational awareness of the Institutional Planning process, and the information gained from the Strategic Planning Directorate's self-assessment activities, DOE RL's evaluation of this area is outstanding. Overall the Integrated Planning Management System (IPMS) achieved excellent to outstanding results within its four high-level performance areas (Delivery of FY 2002 Core Planning Outcomes on Time and with High Quality, Delivery of the FY 2002 PNNL Institutional Plan, Enhanced Integration of Assessment with Business Planning Process, and Demonstrating Improvement in Planning's Key Continuous Improvement Performance). The IPMS effectiveness and level of deployment is determined primarily by its ability to deliver the required products and services. During FY 2002 nearly all core deliverables were completed as planned and although there remains room for some improvements in some plans, reviews indicated an increased quality of most plans. Battelle's management of the Laboratory Directed Research and Development (LDRD) continues to be excellent and the LDRD Annual Report was delivered on time and reported all necessary information, however, the Attachment A was delivered approximately one month late, an area for improvement noted by DOE HQ Office of Science. It should be noted that the contractor was able to maintain the Planning system budget performance within one

percent of its allocations for FY 2001, which included accommodation of substantial unexpected costs associated with the PNNL 2010 Vision efforts.

Although delivered later than originally planned the draft FY 2002 – 2007 PNNL Institutional Plan was delivered more than 30 days prior to the yearly onsite Review as required. The delay was a result of incorporating the new PNNL Vision 2010 strategy. The Office of Science indicated that the overall draft was fine, however, there were requests for more information and clarification in several areas. The planning for and conducting of the Institutional Planning On-Site Review was once again carried out with great expertise and professionalism. The presentations and dialogue were excellent and valuable and DOE HQ Office of Science reported that it was one of the best in recent memory.

Battelle continued to improve the Laboratory planning process by enhancing the integration of assessment with the business planning process. Battelle continued to improve and coordinate calls for information across the two systems and improve the links between the articulation of business strategies and the setting of performance objectives and measures, allowing for improved assessment of the Laboratory's progress toward achieving its strategic goals. Comments and feedback on the usefulness, efficiency and benefits of planning processes and tools indicated marked improvements in all four areas measured.

The importance of effective and efficient integrated planning cannot be overstated and a key to the success of such planning lies within the partnership between the PNNL Contractor and their DOE customers, to include the early inclusion of those partners in the planning process. During FY 2001 the Associate Manager for Science and Technology (AMT) and Battelle signed a partnering agreement, "Partnering for the Future," which set forth the principles of this partnership to ensure the successful future of the Laboratory. Battelle has made significant strides in incorporating these principles over the past few months and we look forward to a strengthening of this partnership during FY 2002.

H. LCAM – Value Engineering:

The performance of PNNL was reviewed for compliance with their contract clause H-31, part (a)(2)(I). The contract clause states; "The process for physical asset acquisition shall be an integrated, systematic approach that shall ensure, but shall not be limited to, the following: (B) Use of a process tool, such as value engineering (VE), to improve efficiency and cost-effectiveness when analyzing physical asset acquisition." The PNNL contract was modified in August 2001 to delete clause H-31 and add the DOE O 430.1A Contractor Requirements Document (CRD). The CRD includes the same requirements to use a process tool such as VE. Their performance in this area was found to be excellent.

During the period evaluated, PNNL performed one formal VE study on the design of a project to replace the electrical switchgear and Heating, Ventilation, and Air Conditioning controls in the 325 building. Several significant items were identified that resulted in design improvements. Other tools, such as life cycle cost analysis, were used

to support the justifications for two proposed line item projects. The DOE Headquarters Office of Science approved the Mission Need and Preliminary Baseline Range Critical Decisions for both projects. PNNL has a contract in place with Fluor Federal Services for the acquisition of VE services when required.

PNNL routinely uses a variety of "process tools" to improve their internal management processes. The Facility Acquisition and Disposition Management System, responsible for facility physical asset acquisition, used teams formed for the purpose of self-assessment and performance improvement, to analyze, evaluate, and recommend process improvements. The areas evaluated and improved were: lease portfolio administration; asset depreciation booking time; facility portfolio investments; and acquisition policies for leasing property.

PNNL often uses collaborative facilitated sessions for the development of annual performance indicators and fee bearing critical outcomes. These processes use cross-functional teams including representatives from DOE and other customer organizations to identify and measure strategic areas for improvement.

I. Scientific and Technical Information Administration:

Battelle's Scientific and Technical Information (STI) program at PNNL met its first objective, to increase understanding of and compliance with information release requirements, by providing information release training and training on the Electronic Records and Information Capture Architecture (ERICA) (the database PNNL uses to track STI) to all STI management system staff. In addition, employees hired since the training concluded have received the training as part of their orientation. PNNL also performed quarterly audits to ensure that STI cited in its ERICA database were in fact posted to its publications website. The audits indicated improvement in posting journal article and technical report citations and STI staff is working with author-representatives to close any gaps. All STI submitted to the Information Release organization has been announced to the Office of Scientific and Technical Information (OSTI) in compliance with the applicable DOE Order. In addition to its negotiated measures, PNNL has undertaken improvement initiatives to perform a quality assurance check to ensure that the STI on its external website is properly announced on OSTI's website -- making corrections where necessary; and to create an interface to allow multiple-file documents using Internet addresses from websites outside of the system onto its ERICA system.

PNNL met its second objective to actively participate in the DOE's STI program by regular participation in Hanford Technical Information Council (HTIC) meetings, OSTI's bi-monthly teleconference calls, and constructive networking with other sites through its participation on OSTI's Journal Consortium.

It is worth noting that in September 2001, the DOE Office of Inspector General (OIG) issued a report that found PNNL's STI program failed to submit journal articles as the OIG expected. PNNL acknowledged it did not meet the OIG expectation for a number of reasons, but had recognized this weakness as early as April 2001, and taken steps to obtain funding to modify its ERICA system to ensure journal articles are announced to

OSTI in FY 2002. Since PNNL had already self-identified this issue and put a plan for a remedy in place, it would not be appropriate for the OIG report to impact its rating for FY 2001. PNNL's rating for STI performance is outstanding.

J. Technology Partnerships Administration:

Battelle's performance at PNNL has been outstanding in the area of Technology Partnerships Administration. The review of the Technology Partnering programs at the Lab included the Cooperative Research and Development Agreements (CRADA) process and the Technology Commercialization Management system.

In the area of CRADAs, the Lab has executed CRADAs in accordance with the DOE mission, policy, guidelines and federal statutes. The success of the program is attributed to the Lab consistently communicating and interfacing with DOE RL and the CRADA participants, streamlining the process, and pro-actively maintaining a constant awareness of any changes to CRADA policy or guidelines. Any significant issues – such as U.S. competitiveness, intellectual property, funding, environmental safety and health or security – that are associated with administering the CRADAs are expeditiously resolved.

In the area of Technology Commercialization (TC), the Lab is working towards the strategies outlined in the Management System Plan with excellent successes. There are three objectives currently being used in the Management System to measure the successes in TC. The first is Creation and Protection of Intellectual Property. Within that objective, the Lab has created indicators that measure numbers of invention reports, U.S. Patent applications, and U.S. Patents issued. For each of these indicators, PNNL has exceeded expectations for FY 2001. The second objective is Operational Effectiveness, which looks at the median days it takes for internal review, and communication regarding the disposition of invention disclosures to technical staff. In this area, the median number of days has decreased from 180 to 83, which is close to the ultimate target of 75 days. Here PNNL will continue to work to decrease the amount of time for disposition. Another indicator of operational effectiveness is the number of Federal Laboratory Consortium and Research and Development 100 awards. On this indicator, PNNL exceeded expectations with four awards in each category. The next performance objective, Create Significant Value from PNNL Intellectual Property, measures progress against the number of new options, licenses and ventures created. The Lab has exceeded expectations in this area.

Overall the Lab has a healthy Technology Partnering program. In the coming year, it is anticipated that the licensing and CRADA programs will work even more closely together in measuring effectiveness in the area of technology partnering.

K. Training:

The Training and Qualification (T&Q) Management System performed at the outstanding level again in FY 2001. All key performance indicators from the Performance Agreement met or exceeded targets for Outstanding, and the sole T&Q Critical Outcome exceeded its 95 percent target with a score of 99.3 percent. A management system

maturity assessment conducted on all PNNL management systems indicated that the T&Q Management System was rated the most mature management system at PNNL, with the highest scores in all areas reviewed.

The T&Q Management System completed two major upgrades during the fiscal year. One upgrade was an Operations Improvement Initiative (OII) to upgrade the Staff Development and Training Planning Tool to a new Job Evaluation Training System (JETS). The other upgraded the training tools provided with the PeopleSoft Human Resource Information System to web-delivered tools as part of the version 8.0 upgrade. Both projects were completed satisfactorily, on time and within established budgets. In addition, continued improvements in training delivery have continued. Most notably, PNNL's Orientation Training Program was converted to web-based delivery, which improves access and reduces cost.

The T&Q self-assessment program did not identify any new significant improvement opportunities for FY 2002. An OII was submitted to incorporate the functionality of the Employee Job Task Analysis into the JETS tool, but PNNL management postponed this until FY 2003. Continuous improvement actions continue in many areas, including the documentation and administration of training requirements associated with PNNL's sole nuclear facility, Building 325, the Radiochemical Processing Laboratory (RPL).

The Contractor has established continuous improvement methods through its training and qualification self-assessment program. Their self-assessment program is fairly comprehensive in scope, well managed, and tracked throughout the year. However, it should be noted that the self-assessment process employed by this management system, as well as all other management systems surveyed this year, did not provide objective data that would substantiate whether external and internal requirements, and in-process controls are being implemented, and the extent to which they are implemented. Improvement actions are documented and tracked through completion, and follow up assessments are conducted to verify that corrective actions were effective. Unplanned assessments are added during the year to address specific issues. Also, the self-assessment approach includes searching out and gathering results from all management system and organizational self-assessments related to training in order to evaluate total Laboratory training performance.

Several instances of weakness in the implementation of nuclear facility training requirements were noted in DOE surveillances during FY 2001. Surveillance S-01-ODD-PNNL-028 completed in June 2001 identified a lack of application of DOE Order 5480.20A requirements to the development of Cognizant Space Manager training at the nuclear facility. Surveillance S-01-ODD-PNNL-038 completed in August 2001 identified a deficiency in the required content of continuing training for certified Fissile Material Handlers. None of the issues noted in the two surveillances were identified by PNNL self-assessments. This is being addressed by PNNL to ensure compliance with DOE Order 5480.20A.

Based on the above, Battelle's training activities are rated as outstanding for FY 2001, as PNNL Training did meet its key performance indicators identified at the beginning of the

year, although some opportunities for improvement were noted in the internal oversight of the processes at RPL and in implementing the nuclear facility training requirements.

L. Worker and Community Transition:

Battelle's performance in the area of Worker and Community Transition has been outstanding this year. This performance, primarily by staff of Battelle's Office of Economic Development, met or exceeded all of the Economic Development Performance Indicators (Objective 3.1). Specifically, Battelle helped create 8 new businesses and provided technical assistance to 45 eligible entities. Of the respondents to a survey regarding the quality of the assistance, 100 percent stated they were "satisfied to very satisfied." This performance has and will continue to benefit the community through innovative technology transfer and the creation of new jobs. This outstanding performance rating is consistent with Battelle's own rating derived in its Laboratory Level Self-Assessment.

M. Work for Others Administration:

Battelle's administration of the Work for Others (WFO) Program during FY 2001 has been outstanding. Of the four performance objectives measured by RL, Battelle received an outstanding rating for three objectives and a good rating for one objective. Battelle has made significant improvements during FY 2001 in two of the most critical areas: 1) Proposals Approved by RL Prior to the Receipt of Funding, and 2) Proposals Submitted to RL in a Complete Package. An outstanding rating was earned for both of these objectives. A good rating was identified for the objective to Transfer Technology to Other Federal Agencies and Industry for Further Development and Commercialization. This objective is measured based entirely on survey input from WFO sponsors, and the lower rating this year may be attributed to the different survey process that was utilized. The success of this objective will be evaluated in future years by internal metrics that are already in place at Battelle. Battelle has continued to display initiative in implementing improvements that have resulted in enhancing the efficiency and effectiveness of the WFO Program. There are some areas for improvement remaining, and attention should be paid to them in the coming year. One area is to provide program briefings to RL in the very early stages of a project when there is a potential for sensitive concerns. Also Battelle should ensure that the appropriate level of staff and management is involved in determining the appropriateness of the work under the WFO Program. Based on the average of the four performance objective ratings and the program improvements that Battelle has implemented throughout the year, the FY 2001 rating for Battelle for the WFO Program is outstanding.



Department of Energy

Washington, DC 20585

November 15, 2001

Mr. Paul W. Kruger
Assistant Manager for Science and Technology
U.S. Department of Energy
Richland Operations Office
825 Jadwin Avenue
Richland, WA 99352

Dear Mr. Kruger:

For fiscal year 2001, the Pacific Northwest National Laboratory's (PNNL) overall performance on Office of Science (SC) science and technology programs is rated as Outstanding. This rating relates to the scale that includes Unsatisfactory, Marginal, Good, Excellent, and Outstanding. It is a weighted average of performance evaluations provided by each SC program office, with the budget for Pacific Northwest from each office as the weighting factor. This summary rating combines overall performance evaluations for program areas supported by the SC offices of Basic Energy Sciences, Biological and Environmental Research, Advanced Scientific Computing Research, and Fusion Energy Sciences.

The evaluations by the SC programs reflect improvement in all areas noted last year as needing corrective action. Lingering concerns still exist, however, concerning the limited number of senior staff devoted to PNNL's Materials Sciences program.

Enclosure 1 summarizes the overall SC weighted average ratings by each goal. Enclosure 2 presents the individual SC Programs' ratings of the laboratory's performance for each of the performance evaluation factors. Also enclosed are full narrative evaluations from each program area.

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Decker", is written over the typed name.

James F. Decker
Acting Director
Office of Science

Enclosures



Enclosure 1:

**OFFICE OF SCIENCE
PACIFIC NORTHWEST NATIONAL LABORATORY EVALUATION
FY 2001 OSC WEIGHTED AVERAGE RATINGS BY GOAL:**

OVERALL CONSOLIDATED RATING: OUTSTANDING
Weighted Average Score: 3.88

Goal: 01 Quality of Science & Technology

Consolidated Rating: **OUTSTANDING**
Weighted Average Score: 3.88

Goal: 02 Relevance to DOE Missions or National Needs

Consolidated Rating: **OUTSTANDING**
Weighted Average Score: 3.86

Goal: 03 Success in Constructing and Operating Research Facilities

Consolidated Rating: **OUTSTANDING**
Weighted Average Score: 3.99

Goal: 04 Effectiveness and Efficiency of Research Program Management

Consolidated Rating: **OUTSTANDING**
Weighted Average Score: 3.79

Enclosure 2

PACIFIC NORTHWEST NATIONAL LABORATORY
FY 2001 RATINGS OF EACH GOAL BY EACH OSC PROGRAM
G = Good; E = Excellent; O = Outstanding

	Goal 1: Quality	Goal 2: Relevance	Goal 3: Facilities	Goal 4: Program Mgt.		Overall Program Rating	Overall OSC Weighted Average
BES	3.50 - E	3.40 - E	N/A	3.50 - E		3.47 - E	
BER	3.96 - O	3.96 - O	4.00 - O	3.86 - O		3.95 - O	
ASCR	3.75 - O	3.82 - O	3.9 - O	3.68 - O		3.78 - O	
Fusion	3.80 - O	3.80 - O	N/A	3.80 - O		3.80 - O	
OVERALL	3.88 - O	3.86 - O	3.99 - O	3.79 - O			3.88 - O

OFFICE OF SCIENCE FY2001 APPRAISAL OF PACIFIC NORTHWEST NATIONAL LABORATORY

OFFICE OF BIOLOGICAL AND ENVIRONMENTAL RESEARCH

Environmental Sciences Division (SC-74) Input for the FY 2001 Appraisal of PNNL

Criteria 1: Quality of Science & technology

Rating: 4.0 - Outstanding

PNNL continues to provide high quality ST&E. PNNL is widely recognized as a leader in the fields of environmental microbiology, biogeochemistry, and microbial ecology. Their scientists have made significant contributions to BER's NABIR program. PNNL scientists have developed and applied cutting edge analytical techniques ranging from sophisticated molecular biological approaches to interfacial chemical analyses. The publication record of PNNL scientists in the NABIR program is outstanding--they have published important papers in high quality, high visibility journals. Their scientists are in demand as invited speakers at key professional meetings.

PNNL's efforts in support of DOE's Atmospheric Chemistry Program (ACP) and Environmental Meteorology Program (EMP) are consistently first-rate. A number of related PI-based projects, all outstanding. Lots of publications. Individual PIs and the PNNL team are very well regarded in the atmospheric science community. The participants in the EMP have extensive collaborations both within the DOE Labs, domestic private sector, as well as global interactions.

Environmental Sciences Division (SC-74) Input

Criteria 2: Relevance to DOE Mission and National Needs

Rating: 4.0 - Outstanding

PNNL continues to excel in its programmatic performance, management and planning. PNNL efforts relevant to the field activities (UMTRA and flow cells) associated with the NABIR program have been excellent. These efforts help the NABIR program in its efforts to understand the basic science associated with bioremediation of metals and radionuclides.

PNNL scientists have a strong mission orientation and are knowledgeable of the technical needs of the agency in the field of bioremediation.

The Global Change Program is a major DOE program. The Atmospheric Radiation Measurement Program is addressing the role of clouds in climate, which is a major uncertainty in climate prediction.

The science lead continues to work in unison with programmatic objectives and future goals/needs/mission of the EMP.

All projects highly relevant to energy-related air quality or climate change or both. Jae Edmonds' research on integrated assessment is so important to this administration that he has briefed many of the senior administration officials, including the cabinet.

Environmental Sciences Division (SC-74) Input

Criteria 3: Success in Constructing and Operating Research Facilities

Rating: 4.0 - Outstanding

The ARM engineering activity has effectively developed and modified the technologies essential for the operation of the ARM sites.

PNNL's management and operation of the Research Aircraft Facility are first-rate. Consistently responsive to the needs of DOE's atmospheric science community.

The operations of the Environmental Molecular Sciences Laboratory (EMSL) have been first-rate, and both management and staff are to be complemented for raising the scientific stature of the EMSL and for increasing the number of users during FY01. EMSL management and scientists should continue to keep SC program managers informed of current capabilities and research activities so that more SC program managers become attuned to potential ties to their programs.

Environmental Sciences Division (SC-74) Input

Criteria 4: Effectiveness and Efficiency of Research Program Management

Rating: 4.0 - Outstanding

PNNL continues to excel in its programmatic performance, management and planning.

PNNL has an excellent record of management and performance. They have delivered the products of their research, for the most part, in a very timely manner. They are also willing to take some scientific risks to move the field ahead. Their interactions with DOE HQ have been positive and constructive. Their management is organized and forward looking.

The ARM Chief Scientist, in coordination with the Science Team Executive Committee, has been very effective in developing research plans for the program. The management for the ARM Project Office and the engineering activities have been efficiently managed.

All ACP projects at PNNL are well managed and well coordinated. Planning for field campaigns consistently first-rate. PNNL scientists also provide extremely effective leadership for multi-agency field campaigns, e.g., PNW 2001. Major contributions to DOE's ASP (Atmospheric Science Program) Strategic Plan.

The science lead continues to work in unison with programmatic objectives and future goals/needs/mission of the EMP.

PNNL has undertaken extraordinary efforts to assist the NABIR program in working with the UMTRA program to establish a site for a field experiment, and continues to lead in the operation of flow cells for experimental research.

Life Sciences Division (SC-72) input for
PNNL Fiscal Year 2001 Appraisal

Criteria 1: Quality of Science and Technology

SCORE: 3.6 - Outstanding

PNNL's Life Sciences research portfolio grew considerably in FY 2001 following its successful competition for microbial genome related funds. Although these projects only got underway in FY 2001 they were highly rated by a peer review panel prior to funding. This is an area of real strength and expertise at PNNL and further development of this aspect of their research program is strongly encouraged. PNNL's other projects span the areas of proteomics, low dose radiation research (an area in which PNNL was also successful in obtaining additional funds through peer reviewed proposals in FY 2001) and structural biology. The largest single project continues to be in proteomics. This effort was again reviewed during FY 01 by groups of external experts and was found to be of exceptionally high scientific quality though issues were raised that need to be addressed. The other Life Sciences projects at PNNL are making good progress and have the potential to make substantial contributions to their fields.

Life Sciences Division (SC-72) input

Criteria 2: Relevance to DOE Mission and National Needs

SCORE: 3.8 - Outstanding

PNNL's Life Science research projects are highly relevant to DOE and National needs in a variety of scientific areas.

Life Sciences Division (SC-72) input
Criteria 3: Success in Constructing and Operating Research Facilities
Not applicable

Life Sciences Division (SC-72) input
Criteria 4: Effectiveness and Efficiency of Research Program Management
SCORE: 2.6 - Excellent

PNNL's Life Sciences research efforts are very responsive to DOE needs and concerns. These projects are part of larger DOE and national efforts requiring close coordination, monitoring of progress and adherence to project goals. In spite of the success of these specific projects, PNNL continues to have a scientific leadership gap in Life Sciences research. Efforts are underway to correct this deficiency and even though some efforts to failed through no fault of PNNL it is still an area of significant concern.

Medical Sciences Division Input for PNNL FY 2001 Appraisal

Reviewer: Dean Cole, Medical Sciences Division (SC-73)

Criteria 1: Quality of Science & Technology

Score 3.8 - Outstanding

PNNL has been successful in producing high quality science that is having a significant an impact on the research community. Their research on the development of the MRI/Confocal microscopy recently won the prestigious Discover Magazine Scientific Award. The success of this project can be attributed to the PI's approach of first developing a thorough understand of the technical challenges of the project and then seeking out the technical expertise and resources required to design and build such an instrument.

Reviewer: Dean Cole, Medical Sciences Division (SC-73)

Criteria 2: Relevance to DOE Mission and National Needs

Score 3.4 - Excellent

PNNL research programs have a major impact on DOE's mission to develop advanced technology that will improve the environment and health within our nation. Research to develop the MRI Optical microscope utilized the unique resource and expertise at the EMSL Laboratory. As the technology matures, industrial participation will be central to the commercialization of the instrument.

Reviewer: Dean Cole, Medical Sciences Division (SC-73)

Criteria 3: Success in Constructing and Operating Research Facilities

Not applicable

Reviewer: Dean Cole, Medical Sciences Division (SC-73)

Criteria 4: Effectiveness and Efficiency of Research Program Management

Score 3.5 Excellent/Outstanding

The MRI optical imaging project has been successful in utilizing the unique resources and personnel at PNNL. The research team has undertaken technical risks and has overcome the technical challenges of combining two different imaging techniques into one by, (1) identifying the technical risk inherent in such task and (2) stepwise addressing each technical challenge. The success is the direct result of effective project management by the PI, Dr. Wind and the staff at EMSL.

OFFICE OF BASIC ENERGY SCIENCES

FY 2001 Science and Technology/Programmatic Performance Evaluation for Pacific Northwest National Laboratory (PNNL)

Criteria 1: Quality of Science and Technology

Reviewer: Dehmer

Rating: 3.5 Excellent

The quality of science for the Metal and Ceramic Science program at PNNL is excellent, and in some areas, outstanding. This evaluation is based on the DOE managed on-site peer review of June 9-10, 1999 and follow-on site visits and peer reviews managed by PNNL management on June 7-8, 2000 and June 13, 2001, respectively. The program will be subjected to written (mail) peer review in the first quarter of FY 2002. The following are recent achievements.

- The research under Dr. William J. Weber concerning the durability of gadolinium zirconate as a radioactive waste host has received international acclaim. Using heavy-ion irradiation, advance characterization techniques, and computer simulation methods, Weber and his partners have discovered that highly durable gadolinium zirconate can lock plutonium into its structure while remaining extremely resistant to radiation damage. In contrast, the gadolinium titanate system that is currently proposed for plutonium immobilization is very sensitive to radiation-induced amorphization--a process that enhances plutonium release to the environment. Weber and associates have shown that radiation-induced degradation of plutonium-bearing titanates will become appreciable within 50 years, and severe degradation will occur in several hundred years, which is very short compared to the 24,500-year radioactive half-life of plutonium. Gadolinium zirconate, on the other hand, will remain unaffected for millions of years.

- What took nature thousands of years to produce can now be accomplished in a few hours using the surface wetting ability of soap-like molecules known as surfactants. Such wetting agents are designed to stick to all surfaces of a complex biological structure such as wood thereby promoting accurate replication of the architecture in a second ceramic or polymer phase material that grows on the bound surfactant. This is made to occur when the living material is treated with a solution that contains the surfactant and a molecular paint that completely permeates all of the biological tissue. Heat treatment removes the biological tissue leaving behind an intact duplicate of the original structure. In contrast to naturally petrified wood where only the gross porosity is filled by a mineral phase, this pioneering process accurately reproduces all length scales of the microstructure from large fibrous tissues to nanoporous channels that permeate the wood. Replication of the diverse pore structures resident in both hard and soft woods including poplar and pine has been demonstrated. On going research underpins continuing structure replication studies on biological tissues of higher complexity.

- It was discovered that high quality, close-packed and oriented nanostructural materials based on self-assembled monolayers of functional molecules on ordered nanoporous can be produced and efficiently assembled. Time dependent high-resolution magnetic resonance experiments suggested that the properties of the monolayers, including the cross-link density and the flexibility of the functional molecules in the porous media, are related to the molecular chain length and to the pore size and shape. Two- or three-dimensional binding sites can also be constructed on the monolayer so that the shape and geometry of these molecular binding sites match those of the target molecules or species. Furthermore, using a molecular directed synthesis approach, specific functional molecules can be delivered to a pre-determined site on the monolayer, forming spatially organized molecular monolayers in which the distribution of the functional groups and molecules are tightly controlled.

The last two results have potential for breakthrough technologies in environmental remediation, energy storage, catalytic chemistry, transportation, microelectronic devices, and controlled- and time-release reactions for biomedicine and agriculture. Nature is abundant with examples in which the distribution of the functional groups and binding sites are tightly controlled on the nanometer scale, such as cell membranes and enzymes. This research has pointed to a new direction, not only on how to control the nanoscale ordering, but also on mimicking the sophisticated functionality of natural materials. These spatially designed molecular monolayers on ordered nanoscale materials work many orders of magnitude better in terms of the loading capacities and kinetics for removing heavy metals from contaminated waste streams, as compared with the best commercial materials. The ability to pack a maximum amount of air in the porosity, and to make the surface hydrophobic, make this kind of material a prime candidate as a low dielectric substrate for microelectronic applications. This work was co-funded with the Office of Science Laboratory Technology Research program and the Environmental Management program. Recognition included a feature article in Science and a 1998 R&D 100 Award.

PNNL has provided outstanding technical collaboration to specific university principal investigators in the Department's EPSCoR Program. The laboratory will sponsor "Advancing Energy Science and Technology Through Partnerships," a DOE EPSCoR Workshop to Initiate and Develop Multi-institutional Research Teams, on June 5-7, 2001. The research performed at PNNL supported by the BES Chemical Sciences program is directed towards interfacial science and includes, amongst others, fundamental studies of the interaction of liquid/interfacial chemistry, energetic processes in condensed phases, kinetics of surface reactions, supercritical fluids, analysis, as well as theoretical efforts related to interfaces. As judged by external peer reviews, the quality of the staff and the science performed are excellent. Reviewers have made comments that some of the work at PNNL will require modification to textbooks and that other aspects of the program are truly "world-class."

The BES Geosciences program at PNNL supports excellent basic research on computational, theoretical, and experimental surface geochemistry. New projects were selected for funding in FY 2000 and FY 2001 in the Complex and Collective Phenomena and Nanoscience Engineering and Technology Initiatives.

The PNNL component of an effort supporting the Microbial Cell Initiative reviewed well. The Energy Biosciences program in late FY 2001 initiated funding of this component.

Criteria 2: Relevance to DOE Missions and National Needs

Reviewer: Dehmer

Rating: 3.4 Excellent

The coupling between the Metal and Ceramic Sciences program with technology programs at PNNL such as those funded by the DOE Office of Energy Efficiency and the DOE Office of Fusion Sciences, as well as one funded by the Electric Power Research Institute, is extremely tight.

The fundamental research supported by the Chemical Sciences and Geosciences programs at PNNL are directly related to the environmental mission of the agency including those specifically relevant to the Hanford site. These programs are providing the theoretical foundation and experimental verification for understanding the fundamentals of how metals and other contaminants bind to mineral surfaces, and therefore, how they can be removed. The programs have built the foundation for a number of successful applications to the Office of Environmental Management in the Environmental Management Science Program.

Criteria 3: Success in Constructing and Operating Research Facilities

Reviewer: Dehmer

Rating: Not Applicable

Criteria 4: The Effectiveness and Efficiency of Research Program Management

Reviewer: Dehmer

Rating: 3.5 Excellent

The BES Metal and Ceramic Sciences program has previously expressed its concern about the excessive coupling between the work it supports at PNNL and the needs of the co-sited applied research of the technology programs at the Laboratory to comply with their milestones. The concern was that there might not be a reasonable opportunity to exploit innovative and creative cutting edge or frontier research that may be inconsistent with the preconceived milestones of these technology programs. During the past 18 months, PNNL has designated a new program coordinator for the BES/Materials Sciences and Engineering program, and BES has observed a notable and encouraging response to this lingering concern. The program management has significantly improved under the direction of the new program coordinator, Dr. Gregory J. Exarhos.

"Another concern" voiced by a peer reviewer, and shared by the BES/Metal and Ceramic Sciences program office, "arises because of the relatively small size of the Basic Energy Sciences program in Materials Sciences. The senior staff appears to be spread over a number of related but separate topics, often of both basic and applied nature. In cases where information was provided, the senior investigators appear to spend only about 30% of their time on an individual project, with much of the work being conducted by post-doctoral and graduate students. There is a danger that, over time, the senior staff may experience 'burnout' or unhealthy levels of

stress." On balance, it is noted that the "spreading thin" of this program is in some part attributable to the overall decline in BES/Metal and Ceramic Sciences funding over the last several years. The concerns will be addressed in the next peer review of the program.

The laboratory management is to be congratulated for taking prompt action to consolidate the Chemical Sciences subprograms under a single management structure in accord with the recommendations.

OFFICE OF FUSION ENERGY SCIENCES
FY2001 APPRAISAL OF PACIFIC NORTHWEST NATIONAL LABORATORY

Associate Director's Summary:

The Pacific Northwest National Laboratory's (PNNL) fusion-related efforts continue to be focused on major tasks of the Office of Fusion Energy Sciences' Fusion Materials Program. They have demonstrated leadership in management of the US/Japan collaborations on fusion materials. They remain at the forefront of research on silicon carbide composite materials and have made important contributions to the vanadium alloy, ferritic steel, and materials modeling programs. The overall quality of PNNL work on fusion materials continues to be outstanding.

Criteria 1: Quality of Science

Reviewer Berk

SCORE : 3.8 - Outstanding

PNNL's work on fusion materials sciences has been outstanding. PNNL has made many excellent contributions to the national effort of the Fusion Materials Sciences Program in their task areas of irradiation damage modeling and helium effects, ceramic composites (focusing on silicon carbide composites), body centered cubic metals (both vanadium alloys and tempered martensitic steels), and face centered cubic metals (copper alloys, austenitic steels, and Ni-based alloys). In the area of silicon carbide composites research, PNNL has been the lead U.S. laboratory and has made numerous contributions to addressing the critical feasibility issues for the use of these materials in a fusion reactor environment. Russ Jones has provided excellent leadership of the US community effort on silicon carbide composites research and is also recognized internationally as a leader in the field. Rick Kurtz has provided strong leadership in a number of areas of fusion materials research domestically and internationally, taking on the leadership of the vanadium task under a major U.S.-Japan collaboration. PNNL has been a strong leader in the miniaturization of irradiation specimens, which has yielded greatly increased productivity from irradiation testing of fusion materials. The PNNL research staff is very well respected in the international community and has produced numerous peer-reviewed publications in key areas of fusion materials research. PNNL is producing original and creative scientific output that advances the science of fusion materials and has shown sustained progress and impact in the field. The PNNL staff is held in high regard by the scientific community.

Criteria 2: Relevance to DOE Missions or National Needs

Reviewer Berk

SCORE : 3.8 - Outstanding

The Fusion Materials Program is a key element of the US Fusion Energy Sciences Program. PNNL continues to focus its efforts on the most important tasks of the Fusion Materials Program. They are responsive to DOE and fusion community input in setting the direction of their work.

Criteria 3: Success in Constructing and Operating Research Facilities

Reviewer Berk

Not Applicable

Criteria 4: Effectiveness and Efficiency of Research Program Management

Reviewer Berk

SCORE : 3.8 - Outstanding

PNNL has taken responsibility in leading the Fusion Materials Program for silicon carbide composite materials and in managing the US/Japan collaboration on fusion materials. PNNL has also shared with DOE the task of conducting programmatic discussions and planning within the Fusion Materials Program Leaders Group. They continue to perform in a superior manner in these roles. PNNL made important contributions to the development of a roadmap for the Fusion Materials Program. They also shared leadership of a planning activity for a possible program redirection that would put greater emphasis on the theory/modeling of materials behavior, and integration of the theory and modeling with the experimental program.

OFFICE OF ADVANCED SCIENTIFIC COMPUTING RESEARCH
FY 2001 Appraisal - Pacific Northwest National Laboratory

Review prepared by: Sam Barish, LTR, SC-32
Criterion 1: Quality of Science and Technology
Rating: 3.7 Outstanding

Pacific Northwest National Laboratory continues to study very important scientific questions and produce high-quality scientific results. An example is a project to develop a new photo-acoustic spectrometer for analysis of plate-based sample arrays with at least 200-fold greater sensitivity than existing absorption-based plate readers while maintaining the analytical flexibility offered by absorption spectroscopy. Another project is developing an understanding of the interfacial chemistry between the surface of a planar cadmium zinc telluride radiation detector and deposited platinum electrodes in relation to device properties. The goal is to minimize the leakage current and maximize the breakdown voltage of the device by controlling the electrode structure.

A PNNL LTR project won a 2001 R&D-100 Award for development of a zeolite-Y-based catalyst material for plasma-catalysis engine exhaust treatment that has been shown to remove nearly 90% of NO_x - with a cost to fuel efficiency of less than 5%. Unlike other possible catalytic systems, this system is not harmed by sulfur impurities and requires no major design changes to vehicles or fueling infrastructure.

Review prepared by: Sam Barish, LTR, SC-32
Criterion 2: Relevance to DOE Mission and National Needs
Rating: 3.8 Outstanding

PNNL LTR projects strongly support DOE missions and national needs. These projects include the development of a new cytometer that contains an integrated particle handling/sample preparation platform. The instrument will be designed and built for the manipulation and analysis of small (less than 10 microns) particles and microorganisms, with an emphasis on environmental samples, and multiplexed nucleic acid detection methods and applications. Another project will determine the best material and the most economical method of embedding or encapsulating probe springs with different elastomeric dielectric materials for use in semiconductor chips, wafers, and substrates.

Review prepared by: Sam Barish, LTR, SC-32
Criterion 3: Success in Constructing and Operating Research Facilities
Rating: Does Not Apply

Review prepared by: Sam Barish, LTR, SC-32
Criterion 4: Effectiveness and Efficiency of Research Program Management
Rating: 3.6 Outstanding

PNNL performed well in the call for proposals for new FY 2001 multi-year projects. Two of their five submitted proposals were funded in FY 2001, and an additional one is a candidate for funding in FY 2002.

The laboratory showed less interest in proposals for Rapid Access projects. PNNL submitted three proposals, of which one was funded. However, the laboratory was the clear leader in Technical Assistance (TA) projects.

Nine TA projects were funded at PNNL, the most of any laboratory, which represented 60% of the total for the LTR program.

The PNNL LTR office has been responsive to the requests from DOE headquarters concerning conduct of the LTR program.

Review Prepared by: Fred Johnson, MICS, SC-31

Background: In FY2001, the ASCR/MICS Computer Science Program funded one continuing effort at PNNL: support for the development of the Global Array Programming model and related runtime software. Three new awards were made in FY2001 that are just beginning:

- Participation in the Scalable Systems Software ISIC (emphasis on resource management and schedulers);
- Participation in the Common Component Architecture ISIC (emphasis on scientific data components and computational chemistry applications); and
- Participation in the base program Scalable Programming Models project (emphasis on expanded global array functionality and common runtime support).

These are all too new to evaluate, and the following comments apply only to the base program Global Array project.

Review Prepared by: Fred Johnson, MICS, SC-31

Criterion 1: Quality of Science and Technology

RATING: 3.7 - Outstanding

Global Arrays have a wide reputation as an effective programming model which supports a version of distributed shared memory, and it has had important impacts on applications-see below.

Review Prepared by: Fred Johnson, MICS, SC-31

Criterion 2: Relevance to DOE Mission and National Needs

RATING: 3.8 - Outstanding

Global Arrays are the fundamental programming model used in NWChem, and NWChem is the prototype application development effort for the SciDAC program.

Review Prepared by: Fred Johnson, MICS, SC-31

Criterion 3: Success in Constructing and Operating Research Facilities

RATING: N/A

Review Prepared by: Fred Johnson, MICS, SC-31

Criterion 4: Effectiveness and Efficiency of Research Program Management

RATING: 3.6 - Outstanding

PNNL management is highly effective at working with CS program management.

Review Prepared by: Mary Anne Scott, MICS, SC-31

Indicator 01: Quality of Science and Technology

Rating: 3.9 - Outstanding

PNNL was involved in several projects that were initiated under the DOE2000 program and completed during this past year.

Specifically, these are R&D projects-electronic notebooks, collaborative session management, and collaborative interoperability framework and a project that is part of the ACTS Toolkit-Global Arrays. All these efforts involved integrated activities across multiple laboratories and organizations. Their work is outstanding and the contribution to the MICS program in their respective areas is very valuable. Their commitment to the concept and implementation of collaborative technology is clear by virtue of applying their experience to the EMSL facility-it is a core part of the facility with the remote operation of the NMR instruments becoming more and more popular for users. Their work is excellent and their contribution to the enabling tools for laboratories is

outstanding. They are well recognized in the field of collaborative technologies with personnel called to serve in an advisory capacity for projects in this area.

Review Prepared by: Mary Anne Scott, MICS, SC-31

Indicator 02: Relevance to DOE Mission and National Needs

Rating: 3.9 - Outstanding

Partnering across science and technology programs is an important element to the structure and goals of the MICS program that supports these projects. PNNL fully supports this partnering and provides effective championing of this goal within the broader community. Under the electronic notebook, the goal is to design a modular, extensible notebook architecture and define a base set of notebook functionality. The acceptance and value of the work is attested to by the large number of users who have adopted the early reference implementation of the notebook for use and by the interest of the Collaborative Electronic Notebook Systems Consortium, with their efforts to create and expand the markets for scientific laboratory software. The notebook technology is continuing with a new project that incorporates agent technology to create metadata and annotations about data objects and the semantic relationships between them.

Review Prepared by: Mary Anne Scott, MICS, SC-31

Indicator 03: Success in Constructing and Operating Research Facilities

Rating: 3.9 - Outstanding

While the work supported by the DOE 2000 projects does not include operation, the influence of the direction of the projects has been very influential in the operations and the tools developed there. Specifically, the CORE2000 toolkit developed as a DOE2000 project, continues to be a key element to remote operation of the Virtual NMR Facility. At the last review of projects proposed for the NMR instruments, a large percent indicated that they plan to rely on only remote operation. A number of others plan to visit for the first operation, then rely on remote operations.

Review Prepared by: Mary Anne Scott, MICS, SC-31

Indicator 04: Effectiveness and Efficiency of Research Program Management

Rating: 3.9 - Outstanding

These projects involve planning across multiple organizations. This is done well and appropriate milestones have been met. From a management perspective, they have shown leadership in promoting a cohesive collaboration environment across the R&D projects and the pilot laboratories. Their activities are a positive contribution and they have also made important contacts in the research community outside of DOE who are pursuing R&D in the same or similar areas.

Performance Evaluation of Battelle for the Management and Operations of the Assistant Secretary for Environmental Management Programs

The following EM Program Offices provided input for the FY 2001 Evaluation of Battelle, however, no overall performance rating was provided for EM. The following tables indicate the weighted rating provided by each office/program and the overall weighted rating for EM. In that the offices/programs did not provide funding levels all evaluations were weighted equally.

EM Program Office	Adjectival Rating	Value Points	Total Points
Environmental Management Science Program (EMSP)	Outstanding	4.76	
Office of Science and Technology (OST) Tank Focus Area (TFA)	Outstanding	4.5	
Groundwater Vadose Zone (GW/VZ) Program	Outstanding	4.5	
DOE Office of River Protection (ORP)	Outstanding	4.58	
EM Total			4.61

Table A. FY 2001 EM Program Evaluation Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table B. Overall Adjectival Rating for EM

United States Government

Department of Energy

memorandum

DATE:

REPLY TO:
ATTN OF: EM-50 (Wengle:6-6382)
SUBJECT:

Final Call for Headquarters Year-End Performance Evaluation of Battelle for the Management and Operation of the Pacific Northwest National Laboratory for FY 2001

TO: Paul W. Kruger, DOE Richland Operations Office

In accordance with your request dated September 28, 2001, this memorandum provides the final rating for Pacific Northwest National Laboratory (PNNL) based on support for the Office of Science and Technology's (OST) Tanks Focus Area (TFA) Program, the Groundwater Vadose Zone (GW/VZ) Program and Environmental Management Science Program (EMSP). It also takes into account the PNNL support to the DOE Office of River Protection (DOE-ORP).

The following table provides the scores for OST's evaluation of PNNL's activities in support of EMSP, TFA, GW/VZ and DOE-ORP. Narrative justification for the scores is provided following the table.

Program Area	Research Quality	Mission Relevance	Research Mgmt.
EMSP	5	4.8	4.5
TFA	4.5	4.5	4.5
GW/VZ	4.8	4.5	4.5
DOE-ORP	4.5	4.75	4.5

Quality of Science and Technology

The PNNL staff leads the TFA technical team in developing the technical responses to the site needs, the technical solutions to the needs, and are responsible for developing the multi year program to address the needs. PNNL is responsible for delivering the Site Needs Assessment document and Multi Year Program Plan (MYPP) each year. The MYPP presents the technical program to support the site needs and is the culmination of the work to develop a prioritized technical program. Starting with the FY 1998 program, the area managers of the four sites with high-level waste have endorsed the MYPP. The fact that the site managers concur with the program plan is a good indication that it meets their needs as a quality product. Over the years, PNNL has repeatedly done an excellent job in working with the Department of Energy to develop this plan.

PNNL continues to do an outstanding job in terms of the quality of science it provides for the EMSP. PNNL maintains the largest portfolio of EMSP projects - all selected through a rigorous peer review process - and continues to demonstrate outstanding technical innovativeness and originality in its research. Technical Peer reviews been completed on various EMSP projects in FY01 help confirm the high level of scientific excellence in this area. In addition, a PNNL-led EMSP project earned a 2001 R&D 100 Award for the Milliwave Viscometer. PNNL continues to communicate successes achieved at both PNNL and throughout the program. At the most recent American Chemical Society National Meeting, PNNL conducted a workshop on Ground Water/Vadose Zone Integration that was very well received.

The science and technology PNNL is applying to the groundwater vadose zone problem has been outstanding. PNNL's work was reviewed in FY01 by a National Academy of Sciences/National Research Council committee that completed a review of the Hanford Science and Technology program (focused on groundwater and vadose zone issues). The committee concluded the work is technically meritorious and is likely to make important contributions to advancing scientific knowledge. In addition, other technical highlights of this work includes increased understanding of Tc99 through the formation of a new collaboration with ecological risk assessment experts in England; completion of the first year radio-geochemical analysis of core samples from S-SX Tank farms which provided insight to migration potential of contaminants beneath the tank farms; and completed field measurements, analysis, and draft results on the FY00-01 Vadose Zone Transport Field Study.

PNNL supported the ORP mission by providing key science and technology results that impact the design and operation of the Waste Treatment Plant. PNNL personnel serve in key science and technology leadership roles under the Waste Treatment Plant's Research and Technology Manager. Specific FY01 performance highlights include: development of a Receptor Risk Module for the River Protection Project Life Cycle Model to examine the impact of various retrieval, leak rate, and tank closure scenarios on the long term health risk to different receptors in Hanford's 200 Area and along the pathway to the Columbia River; development and demonstration with actual waste of an on-line monitor for Tc ion exchange; completed bench scale experiments to provide an understanding of the mechanism for the Sr/TRU removal process; completed Sr/TRU removal and cross-flow filtrating tests, small column Cs IX tests, and draft characterization reports with actual tank wastes from AP-101, AN-102, and C-104; completed a review draft of the "Advanced High-Level Waste Melter Study" report; and provided process planning, initial proof-of-concept demonstrations, and leak detection technology for the ongoing Single Shell Tank saltcake dissolution and retrieval program.

Relevance to Mission

PNNL's EMSP projects continue to be directly relevant to significant EM mission needs. They made significant progress in demonstrating an end user for their EMSP projects and the development of technology disposition plans for each EMSP project is commendable. PNNL has demonstrated outstanding leadership in EMSP. By pre-screening proposals for relevancy to critical EM problems, coaching principal investigators during the early stages of awards, and actively transitioning the projects to the next stage in maturity, all projects have successfully achieved major goals with a high level of networking to end-users and delivering

technology/data to facilitate clean-up activities across the DOE complex. Many EM problems require strategic long-term investments. This year's high number of renewals demonstrates our projects are successfully addressing these strategic problems.

PNNL's work for TFA continues to result in technology deployments that benefit remediation of radioactive wastes stored in underground tanks at DOE sites. Equally important, PNNL has worked to deliver technical solutions in the form of data and recommendations to site users to support project decisions, future direction, and validate baseline assumptions. Performance highlights include completion of the Savannah River Site Salt Processing Project (SPP) R&D Summary Report and evaluation of the three SPP alternatives to support downselection; deployment of an enhanced electrochemical noise/multi-instrument tree corrosion probe in Hanford double-shell tank AN-104; and completed operational acceptance and cold testing of the Pit Viper robotics technology for Hanford and prepared the system for deployment.

The work PNNL has done in the Area of Groundwater Vadose Zone is in direct support of the Environmental Restoration mission of not just the Hanford site but many other sites throughout the DOE complex. Their work on the S&T Roadmap has been outstanding and responsive. Not only has PNNL ensured relevance to the DOE groundwater vadose zone issue but has worked with key stakeholders to cover their issues as well. Specific performance highlights include: completion of field measurements, analysis, and draft results on the FY00-01 Vadose Zone Transport Field Study that helped quantify infiltration and migration of contaminants in the unsaturated zone; completed groundwater /Columbia River interface studies for Hanford's 100-D and H areas in support of Record of Decision mandated activities along the Columbia River corridor; and provided technology alternatives for low cost Vadose Zone monitoring at Hanford's Liquid Effluent Retention Facility – a key component of negotiations with the Department of Ecology for updating the facility's permit.

PNNL supported the ORP mission by providing key science and technology and strategic technical planning, assessment and management support for the Waste Treatment Plant necessary to complete the cleanup of Hanford's highly radioactive tank waste. Specific performance highlights include modification and application of the River Protection Project Life Cycle Model in a baseline alternatives assessment to identify science and technology investment opportunities that could significantly lower costs and accelerate schedule; conducted testing of six tank leak detection technologies at the Hanford Mock Tank test site; deployed a topographical mapping system to Hanford Tank U-107 in support of planned FY01 retrieval demonstration; designed, fabricated and installed a cross-flow filtration unit for testing actual waste samples in the Radiochemical Processing Laboratory's hot cells; and completed a review draft of the integrated River Protection Project Science & Technology roadmap.

Effectiveness and Efficiency of Research Program Management

PNNL has done an outstanding job in performing its responsibility as the technical lead organization for the TFA in FY 2001. In order to do this, PNNL has interacted with the site technical experts to understand the site needs, to develop technical responses, and to address comments to the draft site needs assessment. PNNL's work for TFA continues to result in successful technology deployments while receiving high marks for effectiveness. Specific

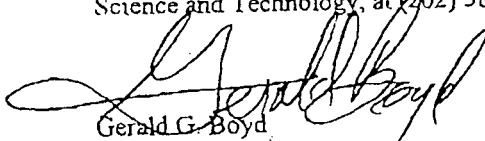
performance highlights include completion of the Savannah River Site Salt Processing Project (SPP) R&D Summary Report and evaluation of the three SPP alternatives to support downselection; issued a Mid-year Review Report documenting feedback from Users, HQ and other participants (very positive); completed an independent HLW Melter Study and Review with recommendations on future R&D to reduce costs of HLW vitrification at Hanford; and continued excellent key deliverable performance consistent with past performance and expectations.

PNNL currently manages the single largest portfolio of EMSP projects of any participating institution. To date, management of these projects has been excellent. During FY01, PNNL highlighted key EMSP projects at TFA's FY01 Midyear Review, connected EMSP principal investigators with TFA staff and problem holders to continue to improve EMSP project success, and prepared for HLW EMSP Kickoff meeting for 32 new EMSP projects.

In addition to providing the technical lead to the Groundwater Vadose Zone Integration Project PNNL also currently manages the Hanford Groundwater Monitoring Project. The level of support of both these activities has been excellent. Specific performance highlights include supporting completion of a review by the National Academy of Sciences on the Hanford Science and Technology Project with very favorable results; reaching agreement with the Department of Ecology on an alternate statistical approach for monitoring 300 Area Process Trenches, reducing the number of well trips and samples required and resulting in savings greater than \$50K annually; and completing the CY2000 Climatological Data Summary, Hanford Annual Groundwater Report, and the Hanford Site Environmental Surveillance Master Sampling Schedule on time and favorably received.

PNNL has continued its support to the ORP mission by providing key science and technology and strategic technical planning, assessment and management expertise. PNNL's work continues to result in solutions to problems while reducing risk, time, and cost associated with the design and operation of the Waste Treatment Plant. Specific performance highlights include development of fact sheets and return-on-investment estimates for the initial set of high-priority science and technology projects that were identified to streamline the River Protection Project; development of strategies for waste form qualification and for simulant development and applications; co-authored Tank Space Options study with CHG for Tri-Party Agreement milestone M45; and named by the Waste Treatment Plant Team's Research and Technology Manager to key science and technology leadership roles.

EM appreciates the support provided by PNNL. The laboratory has routinely exceeded standards and expectations. We also appreciate the opportunity to provide input to this evaluation process. If you have any questions please contact Dr. John Wengle, Office of Science and Technology, at (202) 586-0396.

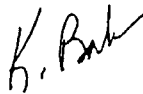

Gerald G. Boyd
Deputy Assistant Secretary
for Science and Technology
Office of Environmental Management

Randolph Scott
Acting Deputy Assistant Secretary
for Project Completion
Office of Environmental Management



Department of Energy
National Nuclear Security Administration
Washington, DC 20585
November 5, 2001

MEMORANDUM FOR: Paul W. Kruger, Associate Manager
for Science and Technology

FROM:  Kenneth E. Baker
Principal Assistant Deputy Administrator
for Defense Nuclear Nonproliferation

SUBJECT: Request for HQ Year-End Performance Evaluation
of Battelle for the Management and Operation of the
Pacific Northwest National Laboratory (PNNL) for
Fiscal Year (FY) 2001

In response to your letter, same subject as above, dated September 7, 2001, I am providing fiscal year 2001 performance evaluation input of Battelle related to their work in the area of Defense Nuclear Nonproliferation. Program performance was evaluated against three criteria; quality of technical support, relevance to NN mission and management effectiveness.

This feedback also summarizes verbal discussions held with Debbie Trader, Program Senior -Advisor, Richland Operations Office and with Mike Kluse, Associate Laboratory Director, National Security Division, Pacific Northwest National Laboratory, on October 22, 2001.

Battelle's overall performance is rated at Outstanding (5). PNNL conducts work in the area of National Security with the highest quality, at a minimum price to the government and with consideration for the government and country's interests first and foremost. PNNL is considered part of the national security team and I have utmost confidence and trust in the PNNL Leadership and the work they perform. PNNL is often sought out and consulted for advice, ideas, and clarification on issues. Additional performance feedback, which you received via email from Robert Waldron, dated October 24, 2001, is enclosed.

Quality of Technical Support – Outstanding (5)

Feedback received from the programmatic divisions, such as NN-20, 30 and 40, indicates that PNNL provides significant scientific and technical contributions to address complex problems, and performs high quality work. Through the work of the Pacific Northwest Center for Global Security, PNNL was successful in increasing the visibility and equity of the NN programs with the northwest academic, NGO, and congressional communities. The scientific and



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programmatic achievements for NN-20 reflect an outstanding performance through successful research, development of prototypes, test and evaluation of developed sensors, and technology transfer. PNNL's capability to implement projects in the former Soviet Union is evident in the success of the simulator, safety parameter display system, and Chornobyl Heat Plant projects, all of which provide significant, real safety improvement at operating nuclear plants.

Relevance to NN Mission – Outstanding (5)

PNNL work is consistently relevant to our mission. They have been very successful at forecasting and addressing our changing needs. They are willing to submit ideas to meet customer requests as well as ideas to help formulate and develop future direction for the programs and the organization. Actions taken by PNNL clearly consider what's in the best interest of the government and the country. PNNL's input is always relevant to the complex issues we face, is sought out, valued and expected.

Management Effectiveness – Outstanding (5)

In addition to providing high quality work, PNNL consistently provides deliverables within agreed to schedules and costs. This success is contributed to the outstanding leadership across the PNNL organization. The management team is a great asset and are entrusted to go above and beyond just doing well on programs. They put the customer first by carrying out what the customer wants but also diplomatically helps the customer understand what they want when it seems unclear. Management clearly takes ownership for program performance and leads by example.

If you have any questions please contact me on 202-586-0645.

Attachment

cc: Robert Waldron, DOE-HQ
Jim Turner, DOE-HQ
Steve Black, DOE-HQ
Julie Turner, DOE-RL



Department of Energy
Washington, DC 20585

October 29, 2001

MEMORANDUM FOR: Paul W. Kruger
Associate Manager for Science and Technology
Richland Operations Office

FROM: Lawrence H. Sanchez
Director
Office of Intelligence

SUBJECT: Performance Evaluation of Pacific Northwest
National Laboratory for Fiscal Year 2001.

Under Batelle management, Pacific Northwest National Laboratory (PNNL) has performed outstandingly throughout FY 2001-- consistently exceeding my expectations on the quality of its analysis and technology development, responding quickly and accurately to ad-hoc terrorist-related taskings, and providing quality people in supporting the Office's unique responsibilities.

It's somewhat difficult to quantify the value of intelligence support since it's part of a world that deals mostly with intangibles. For example, the best indicator of the value of intelligence analysis is if we were able to determine how that analysis actually affected a policymaker's decision and the impact of that decision on national security. Unfortunately, the chance of getting this kind of feedback is very low. Similarly, it is rare that we find out how well a technology worked in the field. Moreover, specific feedback would be classified and more difficult for your use in evaluating the overall Lab performance.

In the absence of this kind of data, I have based my assessment of PNNL's performance on more subjective metrics such as response time, accuracy, initiative, follow-up, and overall security — not on the number of reports delivered or R&D dollars. My assessment includes my own experiences as well as direct feedback from CIA, DOD, FBI, and, of course, DOE. I deal primarily with and through PNNL's Field Intelligence Element. As my lead cell for analysis at PNNL cell, the FIE not only houses much of the resident expertise on technical intelligence but also acts as my conduit to other parts of the Lab, matrixing additional lab personnel to the FIE, as needed.



- **Response Time.** PNNL's response time continues to be excellent, particularly during the recent crisis. PNNL was especially helpful in answering some ad-hoc, sometimes out-of-the-box requests that needed almost immediate turn-a-round. The answers helped CIA's ability to become more predictive in its threat forecasting.
- **Accuracy and Follow-up.** PNNL's expertise in some of the Office's key business lines is reflected in its analysis including assessments on analysis of conventional nuclear reactors, fuel cycles, and material. PNNL has led the way for the Intelligence Community's efforts on developing cyber analytic methodologies. Moreover, I am quite pleased with PNNL's ability to maintain focus on an issue even after providing its assessment—keeping me aware of new developments or different perspectives.
- **Initiative.** PNNL has a good reputation for dealing with the more esoteric intelligence issues that fall out of the range of what the design labs can handle. They continue being my "go to" guys when I have technical issues that traditionally need a different mind-set and skill set to respond most effectively. Subsequently, PNNL's initiative in maintaining this unique capability together with ideas of ways to capitalize on this capability has been key to my efforts in stepping up and responding to high priority national security issues.
- **Security.** PNNL continues maintaining its high-level of security in not only protecting DOE information but by strictly abiding by the requirements for handling, disseminating and storing highly classified foreign intelligence.

In sum, I hold PNNL and its FIE in high regard as one of the primary the leads for the Department's and the Intelligence Community's intelligence mission and as an outstanding contributor to my responsibility for providing the USG with the best technical analysis available.

**Performance Evaluation of Battelle for the
Management and Operations of the
Office of Counterintelligence (CN)
Programs**

The following CI Program Offices provided input for the FY 2001 Evaluation of Battelle, however, no overall performance rating was provided for CI. The following tables indicate the weighted rating provided by each office/program and the overall weighted rating for CI. In that the offices/programs did not provide funding levels all evaluations were weighted equally.

CI Program Office	Adjectival Rating	Value Points	Total Points
Investigations Program	Outstanding	5.0	
Analysis Program	Excellent	4.0	
Information and Special Technologies Program	Outstanding	5.0	
Training and Awareness	Outstanding	5.0	
Counterintelligence Evaluations Program	Excellent	4.0	
CI Total			4.6

Table A. FY 2001 CI Program Evaluation Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table B. Overall Adjectival Rating for CI

Davis, Terry L

From: Turner, Julie K
Sent: Monday, October 15, 2001 12:52 PM
To: Davis, Terry L
Cc: Wiley, Joe W; Trader, Deborah E
Subject: FW: CI Performance Evaluations Survey



PNNL.doc

Terry - Please see attached CI performance evaluation... one down!

Julie

-----Original Message-----

From: Michael.Waguespack@cn.doe.gov
[mailto:Michael.Waguespack@cn.doe.gov]
Sent: Monday, October 15, 2001 11:52 AM
To: paul_w_kruger@rl.gov
Cc: Julie_k_turner@rl.gov
Subject: CI Performance Evaluations Survey

Attached are the OCIHQ narrative comments for each program element in response to the PNNL CI Performance Evaluations Survey.

The overall performance of the PNNL CI Organization is rated at "Outstanding."

Please let me know if you require any additional information from this office.

(See attached file: PNNL.doc)

Michael J. Waguespack, Director
Office of Counterintelligence

**Counterintelligence Performance Evaluations Survey
Pacific Northwest National Laboratory
Richland Washington
Fiscal Year 2001
Narrative Comments**

Investigations Program - Outstanding

The Counterintelligence Investigative Program (IP) at PNNL is considered to be highly successful. During the past rating period, PNNL SCIO and staff consistently performed at the highest levels of achievement that resulted in quality CI investigations. The SCIO's CI plan at PNNL is consistent with OCIHQ investigative directives. The SCIO ensures that staff personnel are informed of all CI policies from OCIHQ that impact their site. PNNL takes great pride and care in reporting their CI investigations to OCIHQ. This reporting is of the highest quality and is never out of compliance with the established Procedural Guidelines of the IP. PNNL has a well-balanced approach in executing the CI investigative mission of the OCI. As a result, quality CI cases are being opened and investigated. PNNL's high performance is also measured by tracking the number of cases it has opened and closed during this rating period. Of all sites, PNNL out performed other offices in terms of quality cases and overall caseload. Equally important is PNNL's ability to resolve difficult and complicated investigations in a timely manner. PNNL's leadership to take on complex cases has been recognized by the Senior Intelligence Officer, Intelligence Division on at least one significant and ongoing CI matter.

PNNL's investigative liaison with the Intelligence and Law Enforcement communities has demonstrated its importance in contributing to the concept as a force multiplier. Besides its close working relationship with the FBI, PNNL CI has interfaced with the CIA Station, the Intelligence Division of the Department and the Counterintelligence Office, Diplomatic Security, USDS. Efforts on behalf of PNNL with these organizations have also enhanced the profile and stature of the OCI with these respective services.

Based on the above information, the IP management considers PNNL performance in this critical sub-program to be outstanding.

Analysis Program (AP) - Excellent

Pacific Northwest National Laboratory's (PNNL) support of the DOE Office of Counterintelligence's (OCI) Analysis Program (AP) has been excellent. Headquarters AP staff report that PNNL's responses to field analytical taskings have been well organized, comprehensive in coverage, and have provided valuable CI analytical insights. In at least one instance, PNNL's response exceeded what was requested. Quality CI analysis is largely dependent upon rigorous and comprehensive research, coupled with an ability to interpret and assess that information thoroughly. PNNL receives high marks on all aspects of that process. PNNL's local threat assessment briefing materials are also of high quality. These briefing materials thoroughly cover many important aspects of the foreign intelligence threat facing the

laboratory. Both the AP field analyst and field CI cyber representative at PNNL are to be commended for their respective responses to OCI Headquarters taskings and for their inputs into local threat assessment briefing materials. The HQ AP recently received a draft of PNNL's local threat assessment, and a cursory look indicates that it is very thorough and comprehensive. PNNL's is one of the first draft threat assessments the HQ AP has received from the field, and AP management looks forward to reviewing it in-depth.

Information and Special Technologies Program (ISTP) - Outstanding

PNNL CI has been a strong supporter of the ISTP mission, has shown initiative at the strategic and tactical level, has responded with alacrity to all taskings, and has worked well to effectively bridge and merge the direct CI portion of the program with the more task oriented ISTP projects (e.g. IMAC) also underway at PNNL. SCIO Jack Slicks has brought to bear excellent management, planning, and personnel support to the program. He has successfully worked with the PNNL system to ensure facilities and appropriate personnel are made available to support the program. He has also given his full support to the local ISTP technical Expert, Greg Chartrand. Over this past year, Mr. Chartrand has become a leader with the ISTP. He has developed the local ISTP plan, initiated in-house tactical analytical efforts, developed excellent liaison channels with computer security, and continues to leverage his long-time relationship with the technical community within DOE.

Training and Awareness - Outstanding

During FY2001, the PNNL CI office did a superb job and made outstanding accomplishments in training initiatives through engagement in a very active Training Program. CI and support personnel completed 11 courses in a variety of FBI, NACIC/NCIX, DOE, CARDS and technology training aimed at increasing their knowledge, understanding and backgrounds. In addition, the CI staff was heavily involved in 25 distinct PNNL courses ranging from security to management subject matters. As a further training initiative, in November 2000, the CI program began supporting its training plan through incorporation of special training topics for presentation bimonthly at CI staff meetings. These topics include IAEA, the NCI Program, the Chemical/Biological Threat, and the PNNL Legal Service Division half-day legal presentation.

Awareness initiatives have been extremely aggressive and included PNNL staff awareness training for 477 attendees in 31 audience specific sessions including the CI Awareness for DOE course, MPC&A, HR Managers, FV&A, OPSEC Working Group, and System Administrators. In addition, CI staff presented program, awareness and threat briefings in connection with its liaison/outreach efforts, such as briefings to the FBI, CI Coordination Committee. CI personnel prepared a classified threat briefing to support their site assessment, incorporating "In-Focus", which is an animated technology and will be used as a template for future classified CI group briefings. They have also been very actively involved in briefing all new hire "foreign nationals" as part of their orientation to PNNL. Awareness briefings of all types (including initial, refresher and unclassified briefings) totaled 7351 personnel. They actively operate and update a CI web site, which was activated in September 2000, to provide up to date CI awareness information to all employees and routinely disseminate brochures and pamphlets during all briefings, training sessions and presentations. CI awareness efforts continued with publication of a CI Awareness article in *Inside PNNL* and the *NSD Newsletter*, which are distributed to all PNNL staff. An upcoming article entitled "Inside Betrayal" was prepared for publication as a security update to all staff reminding them of precautionary measures they should be aware of within their work environment. They also published articles in *Hanford Reach*, a publication distributed to all contractors and staff on the Hanford reservation. Other internal lab publications are distributed on either a quarterly or weekly basis as warranted covering CI matters.

Counterintelligence Evaluations Program (CIEP) - Excellent

The PNNL CI organization is rated excellent in the area of Personnel Evaluation. Despite the fact that CIEP's CARDS Case Management System is not yet up and running, PNNL CI stepped forward and volunteered to begin conducting Personnel Security File reviews. Although Richland has not done a great deal of hiring in their PSAP program since PNNL CI began conducting the file reviews, OCIHQ has been impressed with PNNL CI's timeliness in the reporting of the PSF reviews and their thoroughness in the reporting of potential CI issues. PNNL CI's reporting of these potential CI issues, which would otherwise have gone unnoticed, has resulted in several additional inquiries being initiated by CIEP.

**Performance Evaluation of Battelle for the
Management and Operations of
Assistant Secretary for Energy Efficiency and Renewable Energy (EE)
Programs**

The following EE Program Offices provided input for the FY 2001 Evaluation of Battelle, however, no overall performance rating was provided for EE. The following tables indicate the weighted rating provided by each program office and the overall weighted rating for EE. In that all program/project offices did not provide funding levels all evaluations were weighted equally.

EE Program Office	Adjectival Rating	Value Points	Total Points
Office of Power Technologies (OPT)	Outstanding	4.68	
Office of Transportation Technologies (OTT)	Outstanding	4.87	
Office of Building Technology, State and Community Programs (BTS)	Outstanding	4.73	
Office of Industrial Technologies (OIT)	Outstanding	4.67	
EE Total			4.74

Table A. FY 2001 EE Program Evaluation Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table B. Overall Adjectival Rating for EE

Biancosino, David L

From: Linda.Silverman@EE.DOE.GOV
Sent: Thursday, November 08, 2001 12:14 PM
To: paul_w_kruger@rl.gov
Cc: david_L_biancosino@rl.gov; Marvin.Gorelick@EE.DOE.GOV; Robert.Dixon@EE.DOE.GOV; William.Parks@EE.DOE.GOV; Paul.Trottier@EE.DOE.GOV
Subject: PNNL evaluation by EERE/OPT



PNNL Eval 11_01.wpd

Please see the attached evaluation by programs under the Office of Power Technologies.

(See attached file: PNNL Eval 11_01.wpd)

**PNNL Evaluation
by DOE/EERE/OPT**

Program: Hydropower

Evaluator: John V. Flynn, EE-13/Peggy A. Brookshier, DOE-Idaho

FY 01 Funding: \$639,400

Narrative: Completed the Shear/Turbulence, and Pressure tests on fish. Reports were written and published. Continued to make changes to improve "sensor fish". Timeliness in completing testing and reporting has improved.

1.1: 4

1.2: 5

1.3: 4

Program: Transmission Reliability

Evaluator: Phil Overholt

	Quality of Science and Technology	Relevance to DOE Mission	Effective Program Management	Overall
Rating	4.8	4.8	4.8	4.8 Outstanding

Quality of Science:

PNNL project leaders supporting the Transmission Reliability program are Nationally recognized experts in the field of advanced control and analysis of power transmission systems. PNNL has applied this expertise to original work in performing a major role in planning, implementing, and evaluating the capability of real time control systems to capture complex interactions resulting from staged large-scale tests on the Western system. John Hauer at PNNL received an **Energy 100 award** in 2001 for the Wide Area Measurement System (WAMS), a network of synchronized monitors collecting high-speed data from strategic locations throughout the power grid, jointly developed over the past 10 years with DOE, BPA, EPRI, and other utility company support.

Relevance to DOE Mission:

PNNL performs research, development and demonstration of electric power system real time control technologies for the Transmission Reliability program in the Department of Energy. PNNL is supporting implementation of the National Energy Policy through participation on the

consultant writing one of the six white papers (New Transmission Technologies) that form the resource material for the study recommendations.

Scientific and Technical Leadership:

PNNL is playing a leadership role in the Department's National Transmission Grid Study that responds to recommendation 7.4a of the National Energy Policy. PNNL program personnel supporting the Transmission Reliability program are recognized National leaders in the area of operation and evaluation of high voltage transmission systems, and serve on various Western System Coordinating Council (WSCC) Committees that evaluate dynamic transmission system conditions. PNNL staff are actively supporting the Modeling and Validation Work Group of the Western Systems Coordinating Council (WSCC), including supporting system tests and drawing together the data and tools that are needed to calibrate planning models using data collected from these tests.

Program: Buildings-Cooling-Heat Power Program
Evaluator: Ron Fiskum

1.1 Quality of Science & Technology: 4.5

PNNL in the last year since the last evaluation, has done an excellent job in keeping up with the technology advances in building equipment control systems and applying them to our DER project at the University of Maryland. They have also kept abreast of the fuel cell development and done an excellent job in assisting DER in the Fuel Cell Summit program in Codes and Standards for the installation and operation of fuel cells in buildings.

1.2 Relevance to DOE Mission and National Needs: 4.5.

PNNL is doing an excellent job in keeping up with the DER program in supplying and presenting relevant information to promote DER programs. They have also produced an award winning newsletter "Fuel Cell Summit" which is gaining support from the private sector. The work they are doing is very relevant to the mission of DER.

1.3 Effectiveness and efficiency of Research Program Management: 4.0

PNNL is doing Excellent to Outstanding program management for the DER program in the area of fuel cells, fact sheets and overall general outreach programs.
The program managers are very capable and professional in their duties.

Program area: Support through Ann Marie Borbley-Bartis.

	Performance on IPP	Overall
Rating	4.90	4.9 Outstanding

Performance on IPP:

Ann-Marie has been working on numerous assignments for the Office of Power Technologies including, but not limited to, National Security Issues (backup generation of diesel gensets), critical infrastructure needs, communications and controls strategy, barrier workshop to installing distributed generation, outreach for distributed generation, distributed generation analysis and presentations on behalf of the Office. Ann-Marie has been instrumental in supporting the Office during a critical time of energy insecurity and instability. Her work has been exemplary.

Biopower Program – Evaluator: Ray Costello
FY01 \$200,000

PNNL has done an outstanding job supporting the DOE Biopower Program through the assistance of Dr. Don J. Stevens. PNNL conducted research and analysis activities to provide DOE with technical data, information and analyses for use in its Biopower Program. This research is expected to lead to the development of methods to evaluate and improve advanced biopower systems and to help expedite their commercial deployment.

Research and analyses were conducted in four areas. Analysis of advanced biomass gasification systems was conducted to improve gas quality and system reliability for these systems. Analysis of biomass power infrastructure issues were also conducted to identify and quantify the cost-effectiveness of non-technical policy and regulatory approaches that foster the establishment of biopower, and to help eliminate barriers where they exist. PNNL also identified and analyzed international trends and driving forces influencing bioenergy on a worldwide basis and assisted DOE as needed in its involvement with IEA Bioenergy Tasks.

For Fiscal year 2001, PNNL successfully completed a topical report on analysis of gasification system reliability issues. A topical report on gasification infrastructure issues was prepared in draft form and is currently undergoing internal lab review. In addition, a draft report was prepared providing a summary and analysis of emerging technology concepts and is also being reviewed internally.

Score: highest Outstanding (5)

Biancosino, David L

From: Frank.McCann@EE.DOE.GOV
Sent: Monday, November 19, 2001 7:14 AM
To: paul_w.kruger@rl.gov
Cc: david_l.biancosino@rl.gov; Marvin.Gorelick@EE.DOE.GOV
Subject: FY 2001 Performance Evaluation for PNNL



PNNL OFD eval.wpd



PNNL FY 2001
eval.wpd



pnnl 2001assessment
materials.w...



pnnl 2001 assessment
fuel cell...

Paul,

Sorry for the extremely late submission. However, the following contains evaluations from the Office of Energy Efficiency and Renewable Energy, Office of Transportation Technologies (OTT):

1. Office of Fuels Development (Develop technology for converting cellulosic corn fiber into ethanol)

(See attached file: PNNL OFD eval.wpd)

2. Office of Advance Automotive Technologies (Light Duty Plasma Catalysis Program, Automotive Lightweight Materials Program, and Fuel Cell Transportation Program)

(See attached file: PNNL FY 2001 eval.wpd) (See attached file: pnnl 2001assessment materials.wpd) (See attached file: pnnl 2001 assessment fuel cell.wpd)

Regarding OTT's Office of Heavy Vehicle Technologies (OHVT), I have not been successful as of yet in getting an evaluation on PNNL work performed for us. However, I did not want to hold up our submission any longer as we are already so late. Nevertheless, I will continue to attempt to get something to you from OHVT.

Frank McCann
EE-30
202-586-9316

11-8-2001 FY01 Evaluation of PNNL by EE-31 (OTT's Office of Fuels Development)

Quality of Science and Technology

5 points - PNNL's development of technology for converting the cellulosic fiber in corn kernels resulted in a viable process. The innovative R&D and contribution to the industry's knowledge base to date are outstanding.

Relevance to DOE Mission and National Needs

5 points - The work is outstanding because it is fully supportive of OTT's collaboration with the corn ethanol industry, the most likely source of investment in establishing a new cellulosic ethanol industry in the near future. PNNL's process is being considered for commercialization by the industry partner, the largest ethanol producer in the U.S.

Effectiveness and Efficiency of Research Program Management

5 points - Research plan and progress were both outstanding in that PNNL managed to meet or exceed milestones and keep DOE and the industry partner well informed of the project status and results.

Evaluation of PNNL's FY 2001 Performance for the Department of Energy (DOE) Light-Duty Plasma Catalysis Program, B&R EE-05-03, \$700,000

Rating: Outstanding, 5

1.1 Quality of Science and Technology

In this period, PNNL conducted work on the light-duty Plasma Catalysis program for the reduction of NO_x and PM emissions. The work involves a Cooperative Research and Development Agreement (CRADA) with representatives of the three traditionally US-based automakers (Chrysler Group of the Daimler Chrysler Corporation, Ford Motor Company and General Motors Corporation).

This year, PNNL invented a new conceptual plasma/catalyst system that has a high potential of achieving the NO_x reduction targets with significantly reduced input power requirements. Also, partially oxidized hydrocarbons produced in the plasma region of a plasma/catalyst device were identified and demonstrated to be . In addition, as part of this CRADA work, a sizable reduction in PM was demonstrated, proportional to the input energy of the plasma reactor.

The work also received an R&D 100 Award from R&D Magazine.

1.2. Relevance to DOE Mission and National Needs

Rating: Outstanding, 5.

This work is very relevant to the energy conservation/efficiency mission of DOE by reducing NO_x and PM emissions to enable CIDI engine technology, which is more efficient than traditional gasoline engines.

1.3. Effectiveness and Efficiency of Research Program Management

Rating: Excellent, 4.

The work received high scores at the Annual National Laboratory Peer Review for Combustion, Emission Control, and Fuels for CIDI Engines.

Kathi Epping, Program Manager for National Laboratory Combustion and Emission Control
Ph. (202) 586-7425, Fax. (202) 586-9811, e-mail Kathi.Epping@ee.doe.gov

November 13, 2001

Evaluation of PNNL's FY 2001 Performance for the Department of Energy (DOE) Automotive Lightweight Materials (ALM) program, B&R EE-07-02, \$2,900,000

Rating: Excellent, 4

1.1 Quality of Science and Technology

In this period, PNNL conducted or oversaw work for the DOE Automotive Lightweight Materials (ALM) program on aluminum, magnesium, titanium, glass and metal- and thermoplastic-matrix composites. The work entails interfacing and working closely with representatives of the three traditionally US-based automakers (Chrysler Group of the Daimler Chrysler Corporation, Ford Motor Company and General Motors Corporation) under the joint program between them and the U.S. Government known as the Partnership for a New Generation of Vehicles, and with suppliers of the automakers such as Delphi, Visteon and Alcoa. The work is especially challenging by virtue of the wide scope and various factions.

An aggressive project on magnesium production ended prematurely without resolution of a major problem, but that was due to a business decision by PNNL's subcontractor to shut down the plant where the work was being conducted. All the other projects seem to have progressed well or transitioned smoothly and the quality of work is rated excellent.

1.2. Relevance to DOE Mission and National Needs

Rating: Outstanding, 5.

This work is very relevant to the energy conservation/efficiency mission of DOE by enabling cost-effective manufacture of automotive structures from materials such as aluminum, magnesium, titanium and composites that are lighter than the carbon steels currently used. While the lightweighting effect is inherent to those materials, the issue is almost entirely one of cost. In addition, there is an effort aimed at making thinner glass perform as well as present and at comparable costs.

1.3. Effectiveness and Efficiency of Research Program Management

Rating: Outstanding, 5

This was an extremely challenging year for PNNL's management of the ALM projects. Two subcontracted projects with auto suppliers on aluminum were transitioned to new efforts with the three automaker partners in the PNGV, and two new projects were initiated, one on electromagnetic forming (EMF) and one on joining of dissimilar metals. PNNL did excellent work in recruiting and utilizing the expertise of the Los Alamos National Lab on the coil durability EMF project and also utilizing the Oak Ridge National Lab for the wear testing of the metal-matrix composites project. In addition, completion of the cost study of new titanium production methods was done in a timely manner and the results were very useful for ALM

planning purposes. The main managerial glitch was ostensibly with the three automakers' Automotive Composites Consortium (ACC) re the Delphi thermoplastics project. This likely was due to the ACC and Delphi, not PNNL.

(Dr.) Joseph A. Carpenter, Jr., Manager of ALM program
Ph. (202) 586-1022, Fax. (202) 586-6109, e-mail joseph.carpenter@ee.doe.gov

November 13, 2001

Evaluation of PNNL's FY 2001 Performance for the DOE Fuel Cell for Transportation Program

Rating: Excellent, 5

1.1 Quality of Science and Technology

PNNL researchers have done outstanding work for the OTT Fuel Cell Program in the research and development of microchannel fuel processing technology for automotive fuel cell systems. An extremely innovative approach to fuel processing, microchannel technology has the potential to reduce the size and weight of on-board reformer systems and achieve the DOE targets. PNNL is recognized as a world leader in microchannel technology, winning a Discover R&D 100 Award and the 2000 Fuel Cells for Transportation Laboratory R&D Award.

1.2. Relevance to DOE Mission and National Needs

Rating: Outstanding, 5.

This work is very relevant to the energy conservation/efficiency mission of DOE by enabling cost-effective manufacture of automotive fuel cell components. Fuel cells are a critical part of the DOE R&D portfolio as they will play a major role in reducing U.S. dependence on petroleum. The emerging fuel cell industry has shown great interest in the PNNL microchannel technology and extensive interactions are underway.

1.3. Effectiveness and Efficiency of Research Program Management

Rating: Outstanding, 5

The PNNL group, headed by Larry Pederson, has done an outstanding job managing and executing the program.

November 13, 2001

Biancosino, David L

From: Frank.McCann@EE.DOE.GOV
Sent: Tuesday, November 20, 2001 6:10 AM
To: paul_w.kruger@rl.gov
Cc: david_l.biancosino@rl.gov; Marvin.Gorelick@EE.DOE.GOV
Subject: FY 2001 Performance Evaluation for PNNL



Evaluation of
PNNL.doc Paul,

As discussed in yesterday's e-mail, attached is the last outstanding PNNL evaluation from the Office of Energy Efficiency and Renewable Energy, Office of Transportation Technologies, Office of Heavy Vehicle Technologies (OHVT). The evaluation covers OHVT's High Strength, Weight-Reduction Materials Program.

Again, sorry for the delay,

Frank McCann
EE-30
(202) 586-9316

(See attached file: Evaluation of PNNL.doc)

Evaluation of PNNL's FY2001 Performance for the Department of Energy (DOE) High-strength, Weight-reduction Materials Program for the Office of Heavy Vehicle (OHVT) Technologies

1.1 Quality of Science and Technology

Rating: Excellent, 5

PNNL researchers have done an outstanding job for OHVT in research and development in the equal angular extrusion and the superplastic forming projects. Experiments have been carefully performed and analyzed. The process has the potential of producing unique microstructures of light-weight, high-strength materials that can be used as structural materials in tractors and trailers.

1.2 Relevance to DOE Mission and National Needs

Rating: Excellent, 5

This work is extremely relevant to the energy conservation and hence improved efficiency mission of DOE by enabling cost-effective manufacture of heavy vehicle structural components that will enable greatly reduced gross weights. This will improve efficiency as a result of the reduced weight/and or the increased cargo weight leading to fewer trucks hauling the same tonnage.

1.3 Effective and Efficiency of Research Program Manager

Rating: Outstanding, 5

The PNNL group, headed by Mark Smith, has done an outstanding job of merging the interest of DOE and industry. This has resulted in the establishment of many cost-shared CRADAs. Jud Virden has effectively set the scene for the Essential Power Systems Program.

Contact: Jules Routbort, EE-33, (202) 586-6793

Davis, Terry L

From: Krüger, Paul W
Sent: Friday, November 30, 2001 7:32 AM
To: Davis, Terry L
Subject: FW: PNNL 01 Evaluation

FYI,...
P W Kruger
Phone 372-4005
Page 85-6700
e-mail: Paul_W_Kruger@rl.gov

-----Original Message-----
From: Jack.Warner@EE.DOE.GOV [mailto:Jack.Warner@EE.DOE.GOV]
Sent: Friday, November 30, 2001 7:28 AM
To: david_l_biancosino@rl.gov; paul_w_kruger@rl.gov
Cc: Larry.Bridges@EE.DOE.GOV; Thomas.Heavey@EE.DOE.GOV
Subject: PNNL 01 Evaluation



PNNL Eval Table

Dave, At Larry 01.xls ridges request, here is the xls. summary table of scores and comments for the PNNL evaluation. Next year, please send the request direct to Larry and Tom at the address above, and if you wish, to me also.
I think we will be able to provide a more timely response that way. Since PNNL gets such high marks from us (and I assume all other evaluators!) our tardiness should not hurt this year's evaluation
(See attached file: PNNL Eval Table 01.xls)

PNNL Evaluation: Overall BTS Score

Period: 10/1/00 - 9/30/01

Program Areas	Program Managers	Quality of Science	Relevance to DOE mission	Effective Program Management
Rebuild America	Sze	4	4	4
Emerging Technologies	Brodrick	na*	4	5
R&D Building Codes and Standards	Walder	5	5	5
Deployment Building Codes and Standard	Boulin	5	5	5
Policy Analysis	Dion	5	4	4
Weighted Average		4.90	4.7	4.6

Rating scale 5 - Outstanding, 4 - Excellent, 3 - Good, 2 - Marginal, 1 - Unsatisfactory

Comments:

I must acknowledge the staff at PNNL for their dedication to the mission of DOE with respect to PNNL's ability to stay ahead of the curve. PNNL has consistently and professionally contributed to the ability of DOE to develop, document and propose significant revisions to the Model and consensus codes. PNNL has routinely looked beyond the current fiscal year funding or current building construction accepted practice in order to determine the need for useful activities that need to be developed for future energy efficiency applications. PNNL has continued to "Think outside the box" in order to provide DOE and the American public with creative and interactive solutions to achieving energy efficiency in residential and commercial buildings. I applaud PNNL and I am sure its standard of excellence will remain high even though new challenges are presented to the organization.

PNNL continues to excel

*PNNL provides market transformation support. I cannot judge the quality of science since this is not a science base program.

Calculations for Rating by Dollar Volume

Initiator	FY01 Funds	Percent	Quality of Science	Relevance to DOE mission	Effective Program Management
Sze	780	8%	See	0.34	0.34
Brodrick	1565	17%	Table	0.85	0.68
Boulin	1524	17%	Below	0.83	0.83
Walder	3652	40%	I	1.98	1.98
Dion	1685	18%	I	0.73	0.73
	9206	100%	V	4.73	4.56

Calculations for Rating by Dollar Volume

	FY01 Funds	Percent	Quality of Science
Size	780	10%	0.41
Brodrick	NA		
Boulin	1524	20%	1.00
Walder	3652	48%	2.39
Dion	1685	22%	1.10
	7641	100%	4.90

Biancosino, David L

From: Robert.Brewer@EE.DOE.GOV
Sent: Wednesday, November 14, 2001 11:11 AM
To: David_L_Biancosino@rl.gov
Subject: Re: Instruction Document missing from PNNL Lab Evaluation package

See comments below for the Office of Industrial Technologies.
----- Forwarded by Robert Brewer/EE/DOE on 11/14/01 02:10 PM -----

Robert Brewer

11/08/01 12:33
PM

To: Marvin Gorelick/EE/DOE@DOE
cc: Denise Swink/EE/DOE@DOE, Joseph Malinovsky/EE/DOE@DOE
Subject: Re: Instruction Document missing from PNNL Lab Evaluation package (Document link: Robert Brewer)

With the quick turnaround date due to the package not being disseminated to the sectors in a timely manner, we can only provide a very cursory review for input into the award fee for PNNL.

While their self assessment indicates that they have implemented \$4.3M of OIT work in FY 01, the MARS/FIS report indicates a lesser amount: we obligated about \$2.8M to PNNL and they have costed \$3.3M with one month left in FY 01. Since labs must partner with the private sector and these partnership projects are competitively selected, whether through a competitive financial assistance solicitation or a lab call, we usually find the quality of the technology and the relevance to the DOE mission and National needs to be at the outstanding level. Therefore, I would agree with the PNNL self-assessment that both performance measures, 1.1 Quality of Science and Technology and 1.2 Relevance to DOE Mission and National Needs, should be rated as "outstanding" with a Value Point of 5. Performance measure, 1.3 Effectiveness and Efficiency of Research Program Management, should be rated as "excellent" with a point value rating of 4. While PNNL has made progress in reducing their level of uncosted obligations during FY 01, their uncosted obligations with one month of costing left in FY 01 is 54% of the amount that we obligated to PNNL in FY 01. This is too high and additional corrective actions are required by PNNL in FY 02. Uncosted obligations remains a critical success factor for OIT and is a primary management indicator for EERE.

Please advise if additional input is needed.

Marvin
Gorelick

11/07/01 03:56
PM

To: Linda Silverman/EE/DOE@DOE, Robert Brewer/EE/DOE@DOE, Thomas Heavey/EE/DOE@DOE, Ab Ream/EE/DOE@DOE
cc:
Subject: Instruction Document missing from PNNL Lab Evaluation package

My apologies, I thought I had included the instructions as sent by the Richland Ops Office together with other material. Frank McCann notified me of its absence. I have printed up copies of the total package and will

leave several for each of you in your offices this afternoon. Again my
apologies for the oversight and inconvenience.

**Department of Energy**

Washington, DC 20585

November 9, 2001

Memorandum

To: Paul W. Kruger, Richland Operations Office

From: Robert S. Kripowicz
Acting Assistant Secretary for Fossil Energy

Subject: Evaluation of Battelle's Performance in
Managing and Operating PNNL

This memo is in response to your request for the Department of Energy evaluation of Battelle's performance in managing and operating the Pacific Northwest National laboratory (PNNL) for FY 2001.

The Office of Fossil Energy (FE) spent about \$5.7 million in FY 2001 for R&D at PNNL. More than half of that amount (55%) was in Fossil Energy's fuel cell program. PNNL has been given the lead role in supporting FE's revolutionary fuel cell development effort for solid state fuel cells. We have found PNNL to be creative in this area. They have managed the program with both initiative and with responsiveness to our needs. As an example of their creativity, the program manager presented a new concept, "The Fuel Cell Observatory," for conducting fundamental investigations of fuel cell operation. This proposal was well received, and funded at a pilot level of \$100,000 in FY 2001.

The numerical ratings for PNNL's work in FE's fuel cell program are as follows:

Quality: 5.0

Relevance 5.0

Effectiveness: 5.0

We appreciate the opportunity to provide this feedback to you on PNNL's performance. If you need any additional information regarding this submission, please contact Marvin Singer at 202-586-4336 (marvin.singer@hq.doe.gov).

RECEIVED

NOV 16 2001

DOE-RL/RLCC



Printed with soy ink on recycled paper

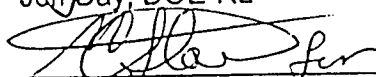
FY01 Critical Outcome 1.5 Initiatives Memorandum of Understanding

12/29/00

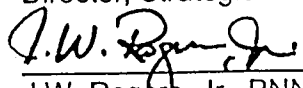
Rev O



Jeff Day, DOE-RL



Erik Pearson, PNNL
Director, Strategic Planning



J.W. Rogers, Jr., PNNL
ALD, Fundamental Science Division

2/01/01
Date

2/02/01
Date

2/6/01
Date

•

[illegible]

FY01 Critical Outcome 1.5 Initiatives – Memorandum of Understanding

Attachment 3

C.O. 1.5.3 - Progress Against the Nanoscience and Nanotechnology Expected Outcomes

Description: This indicator measures progress of this initiative against expected outcomes described in the FY2001 Nanoscience and Nanotechnology Initiative project plan.

The Nanoscience and Nanotechnology Initiative is a newly established effort in the laboratory. The primary goals of the initiative are to enhance laboratory capabilities and leadership in this science and technology area and to facilitate participation in the national nanoscience and technology initiatives.

Performance: Initiative performance will be evaluated using an assessment process that will result in a numerical performance rating based on the metrics discussed below.

During the initial phase of this initiative the assessment will focus on two activities, the expansion of the program plan and the development of an assessment program. The completion of an updated program plan, which includes proposed initiative outcomes, is the first stage of progress. The second early stage measure of the program is the instigation of an initiative assessment plan. The completion of the revised plan is a simple check or no check activity. Several different areas are to be included in the development of the initiative assessment tool and some progress in each area will contribute to the total score. This assessment will be conducted using input from a panel consisting of DOE officials (the POC for the initiative) and the Contractor's staff (task owners and initiative management).

1.5.3.1 Development of a revised Initiative Project Plan stating expected outcomes (25% weight for this initiative).

Revised plan drafted by January 1	Outstanding	5.0
By January 15	Excellent	4.4
By January 30	Good	3.4
By February 15	Marginal	2.4
After February 15	Unsatisfactory	1.4

Results: The plan was revised before January 1 (5 points).

1.5.3.2 Establishing an Initiative Assessment Method (75% weight for this initiative)

A critical aspect of the initiative is the continual assessment of progress relative to desired goals and objectives. The first stage is to have a plan to assess the initiative progress in five areas. Each area is worth a maximum of one point on a five-point scale to be evaluated at year-end. It is expected that areas to be monitored or undertaken will include:

- Initiative reviews involving outside reviewers – the completion of one such review.

Results: Eight outside reviewers were involved in the August review. Some of the projects were rated outstanding, world class (1 point).

- Collecting information about publications, presentations, and workshops that involve the initiative or staff associated with the initiative – during the first year the numbers in each area will be tabulated. This will establish a base for future evaluation.

Results: During this year, 6 papers were published, 8 papers were submitted, one workshop was held, and there were 5 technical and 4 public presentations (1 point).

- Efforts to develop sponsor funded related research – a list will be maintained to show where this initiative contributes to program growth and participation in the national NNI.

Results: The initiative is responding well with proposals in basic science and an increasing attention to other mission areas. We are developing in planned directions, including additional staff and involving more areas of the laboratory (truly a lab-wide transforming initiative). Six proposals and 1 set of concept papers were completed (1 point). One BES NSET Proposal reviewed very well and has received preliminary notice of funding.

- Development and implementation of a plan to increase staff in the initiative areas – the development of a plan and initial implementation satisfies this objective.

Results: A focus team was created within the initiative to better identify prospective candidates. Paul Burrows accepted the position of Science and Technical Lead and six interviews were conducted in strategic areas. Recruiting will continue to be emphasized in FY02 (0.5 points).

- Develop of strategic alliances with other institutions, universities or laboratories.

Results: A Joint Research Institute agreement with University of Washington establishing the Joint Institute for Nanoscience was signed in April and a workshop held in August (1 point).

Weighted scores will be rolled up from the following table to the summary table on page 3:

Sub-Indicator	Performance	Max. Score	Actual Score	Weighting	Weighted Score
1.5.3.1 Revised Project Plan	Outstanding	5.0	5.0	25%	1.25
	Excellent	4.4			
	Good	3.4			
	Marginal	2.4			
	Unsatisfactory	1.4			
1.5.3.2 Establish Initiative Assessment Method	Outside review	0 or 1	1	75%	3.37
	Publication information	0 or 1	1		
	Sponsor funded related research	0 or 1	1		
	Staff increase plan	0 or 1	0.5		
	Strategic alliances	0 or 1	1		
	Subtotal		4.5		
Total Weighted Score					4.62



Department of Energy
Washington, DC 20585

September 10, 2001

NOTE TO: Jeff Estes

FROM: Peter Faletta
Sue Ellen Walbridge
Cindy Musick

SUBJECT: PNNL Science Education Programs funded by the Office of Science

During this fiscal year, PNNL's Science Education group has continued to demonstrate their outstanding and unparalleled management of the three undergraduate programs funded by the Office of Science – Energy Research Undergraduate Laboratory Fellowship (ERULF), Community College Institute (CCI), and Pre-Service Teacher (PST) Programs.

From our review, it was evident that the selected scientists who volunteer to mentor these students are dedicated and ensures that the students gain a clear understanding of their research project and the underlying science. Your staff's guidance and working relationship with these mentors provides the students with a good match of their interest to that of the scientists' project.

The CCI and PST programs both require enrichment components to enhance the research experience for the community college students and pre-service teachers. The PST students had nothing but outstanding comments and appreciation for the efforts of the Master Teacher. The CCI and PST enhancement activities provided under the direction of the PNNL program managers are superior and add significantly to the quality of the summer experience at the lab.

This summer was the first year of our Faculty and Student Team (FaST) pilot program and PNNL was the only laboratory we selected to participate in it. Both the students and faculty member were very enthusiastic about their opportunity to work at a National laboratory. They gave the program glowing marks and greatly appreciated the experience and the assistance from the science education staff.

In addition to the outstanding work done by your staff in the management of the undergraduate programs, your involvement with the NSF partnership has been invaluable in helping form the partnership to suit both the DOE and the NSF aims at serving students and education in the country. Your participation lent a tone of pragmatism and that "reality check" that is needed now and then.

We consider the EduLink an integral part of our programs. The service provided by the staff at PNNL and its entire application and tracking system are progressing better than we have expected. The program knowledge of the staff has been of immense help in designing the new on-line application. In addition, the PNNL staff has strived to find ways to creative and cost-effective mechanisms to keep the tasks on time and under budget. We look forward to a productive partnership in this programmatic effort.